PEMF Accessory Analysis

Analysis Date:	2026-04-30
Report #:	A2604181857
Test Engineer:	David D
Gauss Meter:	FW Bell 5180
Gauss Meter Probe:	Axial
Oscilloscope:	Rigol DHO814
LCR Meter:	FNIRSI LC1020E
Customer:	BBMPulser
Device:	2.4 Tesla BBMPulser 5B
Device Part #:	PEMF BBMPulser 5B
Device Serial #:	358902
Total Device Settings:	9
Accessory:	Classic 3" Strip Coil 0.6mm
Number of Coils:	1
Accessory Diameter:	88mm
Coil Diameter:	3in
Coil Type:	Disc
Coil Shape:	Pancake
Resistance:	0.02 Ohms
Inductance:	53 µH
X Scan Lines:	2
Y Scan Lines:	2
Point Spacing:	10mm
Certification:	The accessory passed certification and its results have been published on the Gauss Labs website for public review.
L/R Time Constant:	2.63 ms

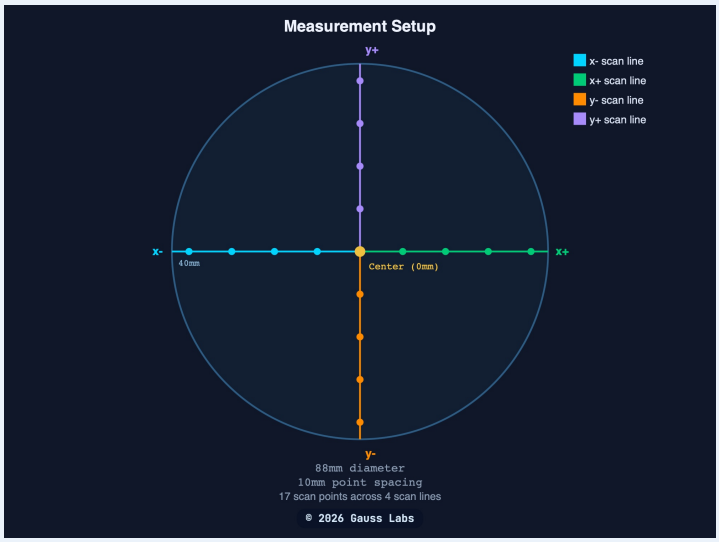
Purpose

This report provides a comprehensive analysis of the magnetic field output produced by the Classic 3" Strip Coil 0.6mm across all tested machine settings. Using calibrated lab test measurement equipment, Gauss readings were captured at multiple scan points along predefined axes radiating from the center of the accessory. The data is used to evaluate peak field strength, flux distribution, field concentration, coverage area, and coil performance characteristics. The results enable objective comparison between machine settings, identification of the coil type and its field pattern, and data-driven guidance for optimizing accessory design and treatment protocols.

Test Setup & Methodology

Overview

Magnetic field measurements were conducted on the Classic 3" Strip Coil 0.6mm using calibrated lab test measurement equipment. Measurements were taken at a fixed standoff distance from the coil face along predefined scan lines radiating from the center of the accessory. Each scan line consists of multiple scan points spaced at regular intervals, capturing the field intensity profile from the center outward to the edge of the accessory.



Scan line layout showing measurement points across the accessory surface.

Test Parameters

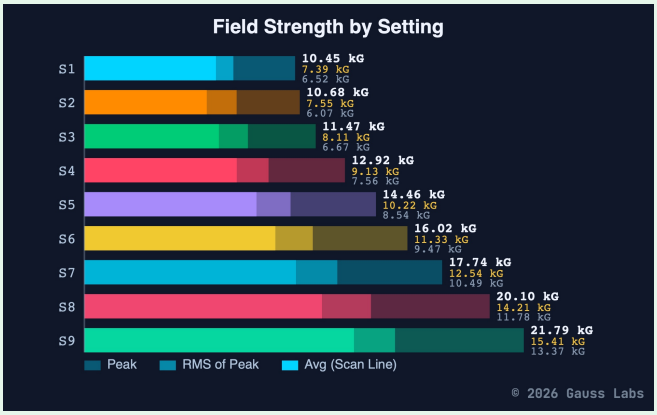
Parameter	Value
Accessory Shape	Disc (Round)
Diameter	88mm (3.46in)
Machine Settings Tested	9
Measured Axes (overall)	x-, x+, y-, y+
Scan Lines (overall)	4
Points per Scan Line	5
Point Spacing	10mm (0.39in)
Max Distance from Center	40mm (1.57in)
Total Scan Points Across All Settings	57
Coil Resistance	0.02 Ohms

Parameter	Value
Coil Inductance	53 uH

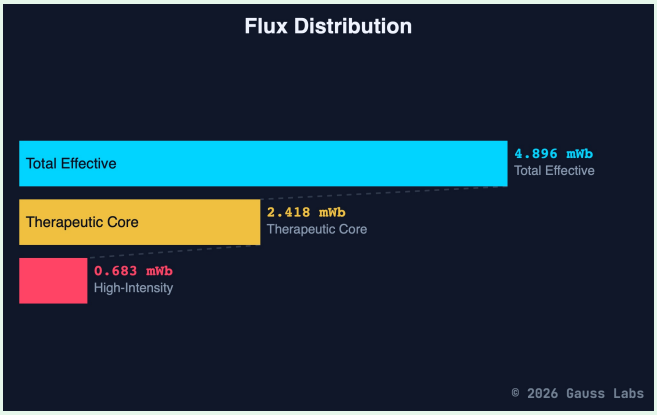
The measurements in this report are 100% accurate for the specific device and accessory tested. However, all manufactured devices and accessories are built within component tolerances. Resistors, capacitors, inductors, and coil windings each carry a tolerance range that affects the final output. Mains voltage variation adds another variable - wall power can fluctuate depending on location, time of day, and electrical load on the circuit. Combined, these factors mean that another unit of the same model may produce results that vary by 20-30% from what is documented here. This is normal and expected in any electronic device. The data in this report represents the measured performance of this specific unit under the conditions described above.

Executive Summary

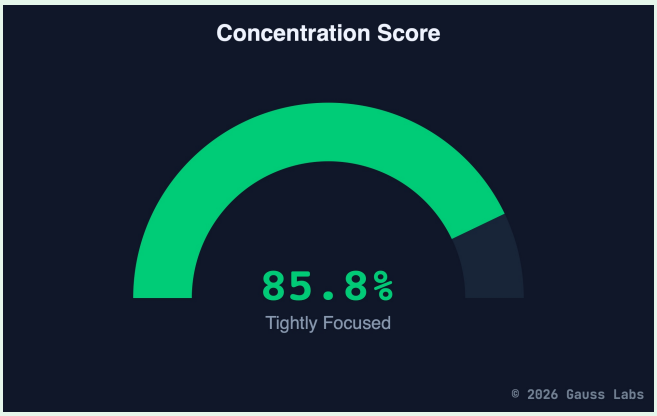
Peak Field Strength, Total Effective Flux, Concentration Score, and Effective Field Diameter work together to characterize the accessory's magnetic field. Peak Field Strength measures the maximum intensity the coil produces -- the ceiling for stimulation depth and strength. Total Effective Flux captures how much magnetic energy is delivered across the entire treatment area within the therapeutically relevant boundary. Concentration Score measures surface concentration -- how the field intensity is distributed laterally across the face of the accessory, not depth penetration. Effective Field Diameter reports the size of the treatment area where the field stays above 10 percent of peak. When all four measurement axes are captured, Field Symmetry is also reported, showing how evenly the field spreads across those axes.



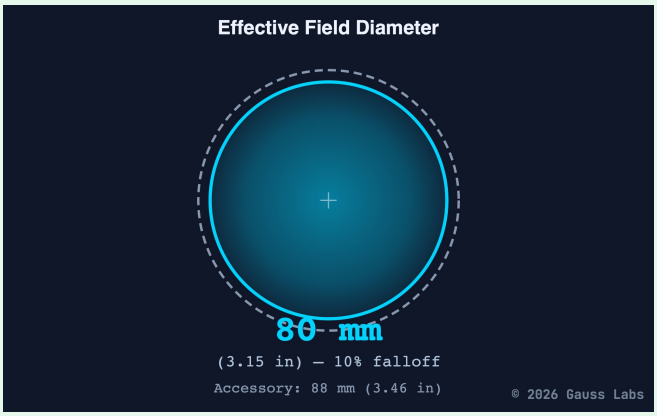
Each setting shows three overlaid bars: Peak (lightest, full width) is the highest Gauss reading. RMS of Peak (medium, 0.707 x peak) is the equivalent steady-state field strength. Average of Scan Line (solid, shortest) is the mean across all measurement points. All bars scale to the global peak for cross-setting comparison.



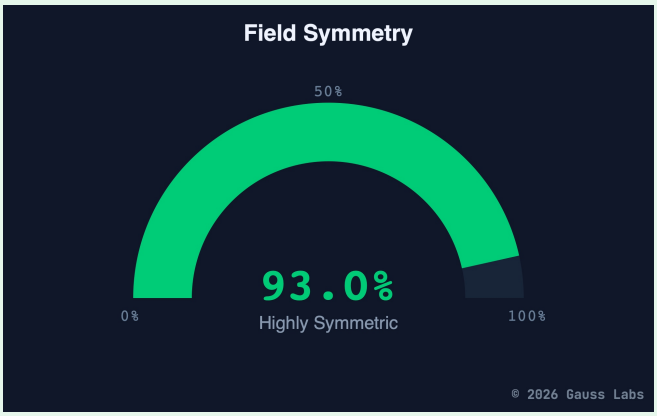
Total Effective Flux (top bar) is all magnetic energy within the coil boundary. Therapeutic Core Flux (middle bar) is the portion where field strength is above 50% of peak -- the most therapeutically active zone. High-Intensity Flux (bottom bar) is the portion above 75% of peak -- the strongest zone. Each bar is a subset of the one above it.



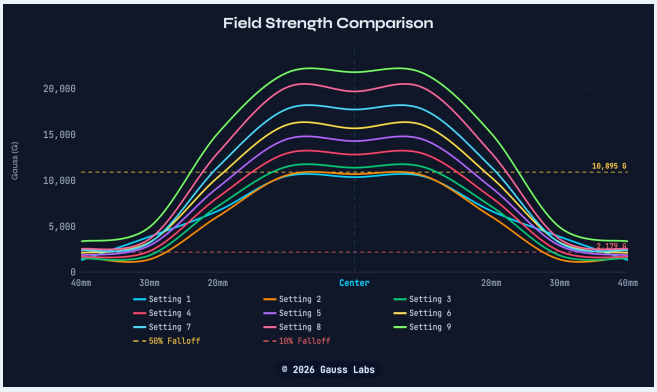
Surface concentration: % of total measured intensity in the core (>= 50% of peak). >70%: tightly focused on the surface (tight pancake coils, targeted treatment). <50%: more broadly distributed (narrow-ring donuts, loops, loose pancakes).



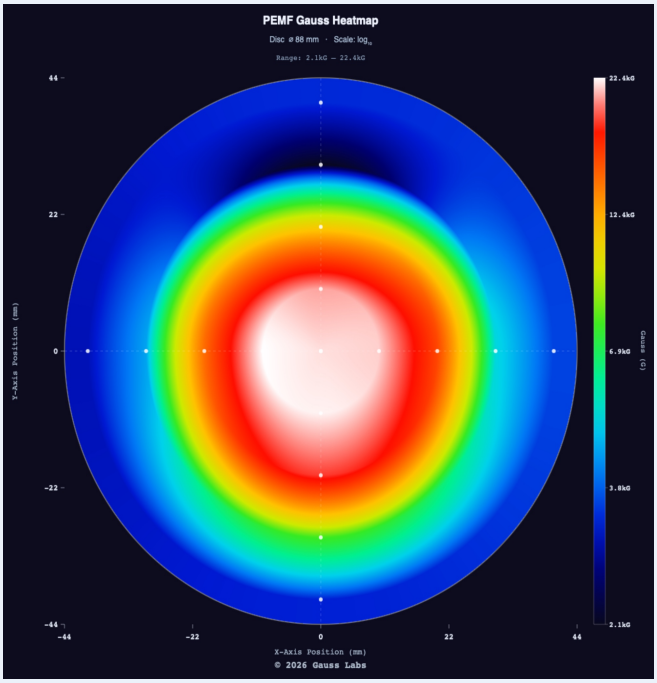
Size of the treatment area where the field stays above 10% of peak intensity -- tissue outside this boundary receives less than 10% of the peak field. The filled circle shows the effective field; the dashed ring is the accessory housing. If the filled circle is smaller than the dashed ring, part of the housing surface is not delivering therapeutic intensity.



Evenness of field across complementary axes (x-/x+ and y-/y+). >80%: uniform coverage; low scores reveal directional bias. Requires all 4 axes.

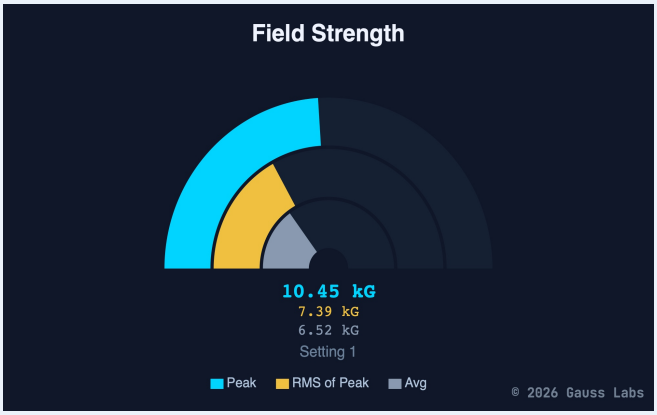


Overlays all settings to compare relative output levels and curve shapes. Dashed lines mark 50% and 10% falloff thresholds.

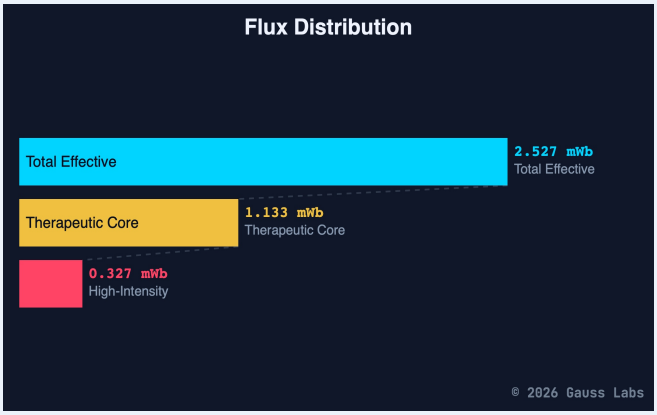


Top-down spatial distribution (Setting 9), revealing hot spots, ring patterns, and coverage uniformity.

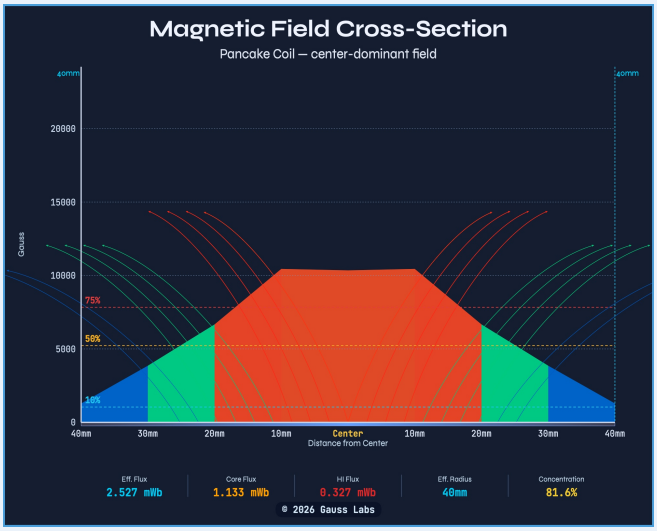
Setting 1



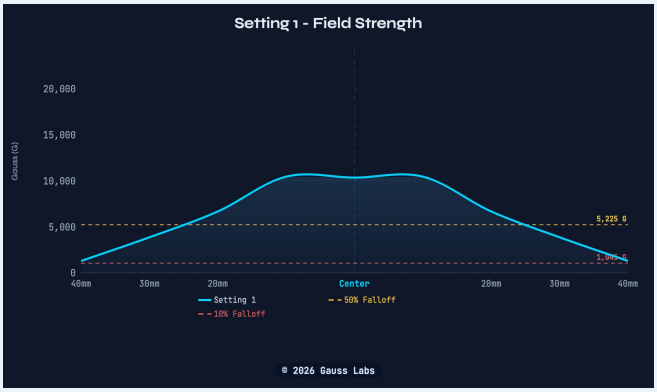
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



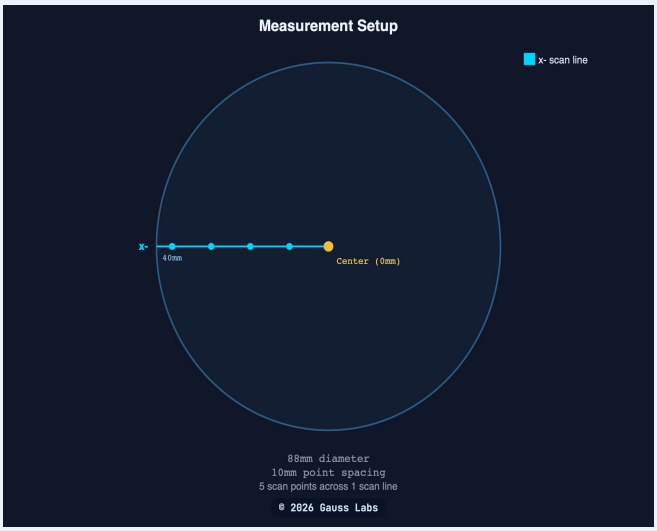
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



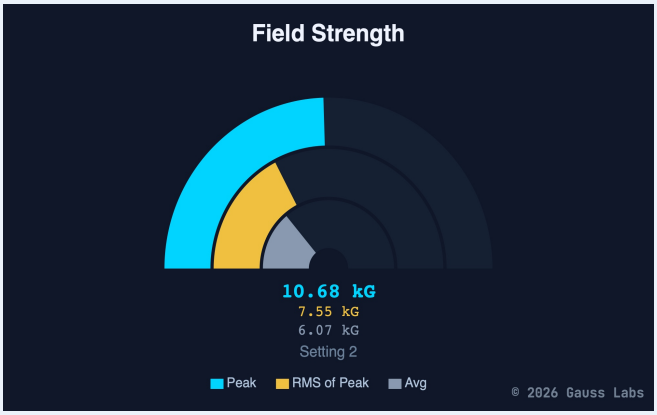
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	10,450.0 Gauss at 10mm
RMS of Peak Field	7,388.1 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	7,448.2 Gauss
Average of Scan Line (all points)	6,524.0 Gauss
Total Effective Flux	2.527 mWb
Therapeutic Core Flux	1.133 mWb
High-Intensity Flux	0.327 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	25.1mm (0.99in)
Coil Type	Pancake Coil (ratio 1.01)
Max Gradient Rate	378.0 G/mm
Ring/Center Ratio	1.01
Measured Axes	x-
Scan Lines	1
Scan Points	5

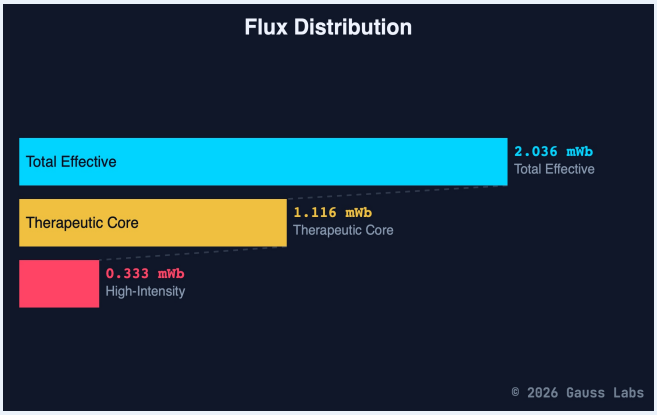
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	10,350.0 Gauss	99.0%
10mm (0.39in)	10,450.0 Gauss	100.0%
20mm (0.79in)	6,670.0 Gauss	63.8%
30mm (1.18in)	3,860.0 Gauss	36.9%
40mm (1.57in)	1,290.0 Gauss	12.3%

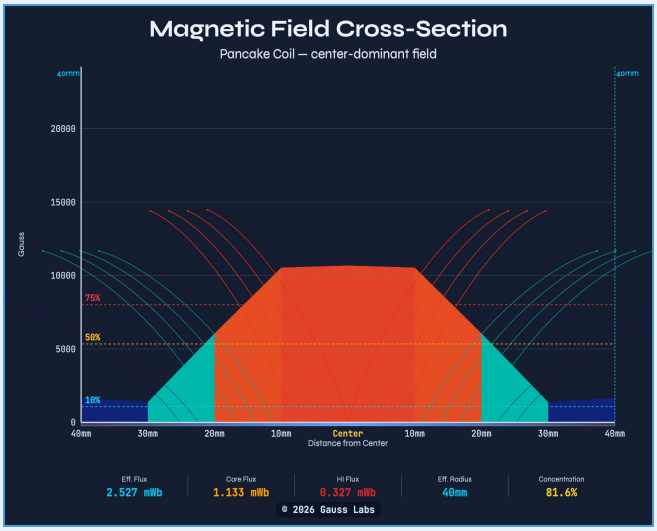
Setting 2



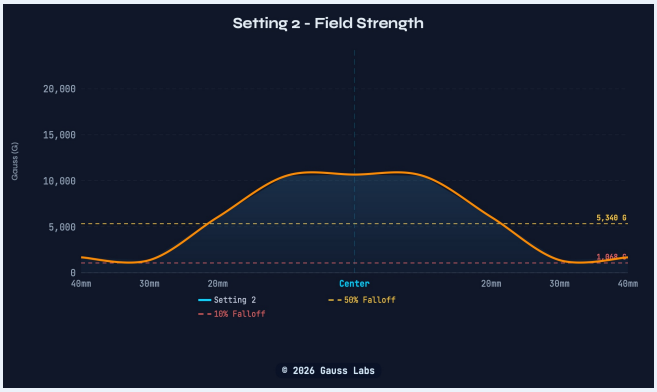
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



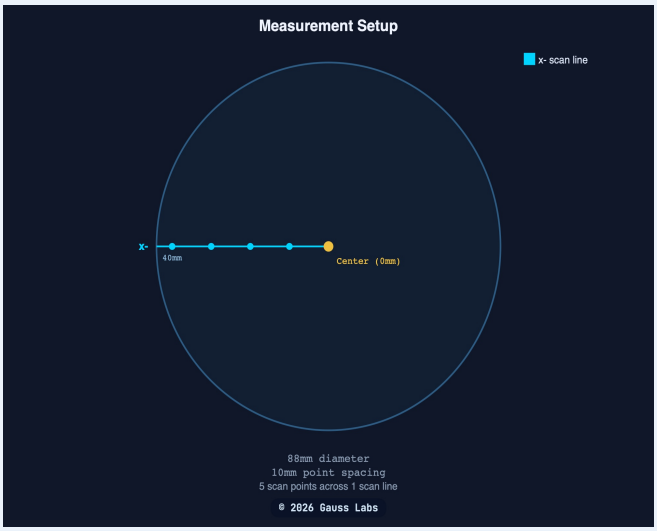
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



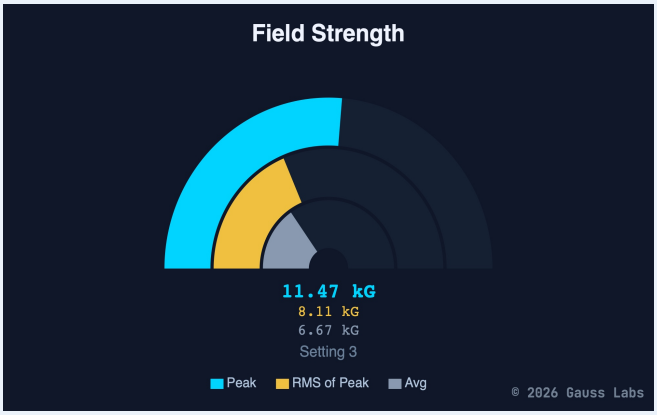
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	10,680.0 Gauss at Center
RMS of Peak Field	7,550.8 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	7,302.1 Gauss
Average of Scan Line (all points)	6,068.0 Gauss
Total Effective Flux	2.036 mWb
Therapeutic Core Flux	1.116 mWb
High-Intensity Flux	0.333 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	21.5mm (0.85in)
Coil Type	Pancake Coil (ratio 1.00)
Max Gradient Rate	468.0 G/mm
Ring/Center Ratio	1.00
Measured Axes	x-
Scan Lines	1
Scan Points	5

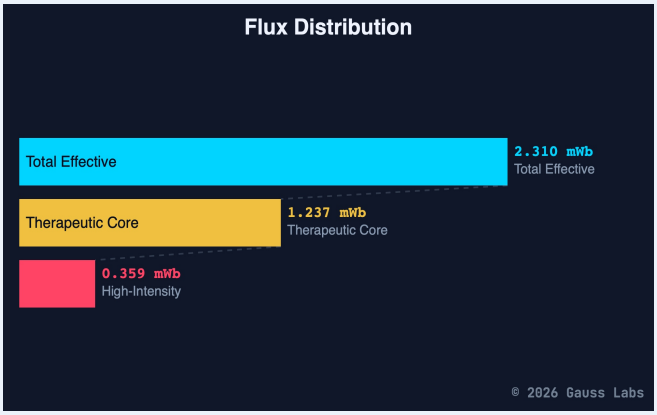
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	10,680.0 Gauss	100.0%
10mm (0.39in)	10,540.0 Gauss	98.7%
20mm (0.79in)	6,060.0 Gauss	56.7%
30mm (1.18in)	1,380.0 Gauss	12.9%
40mm (1.57in)	1,680.0 Gauss	15.7%

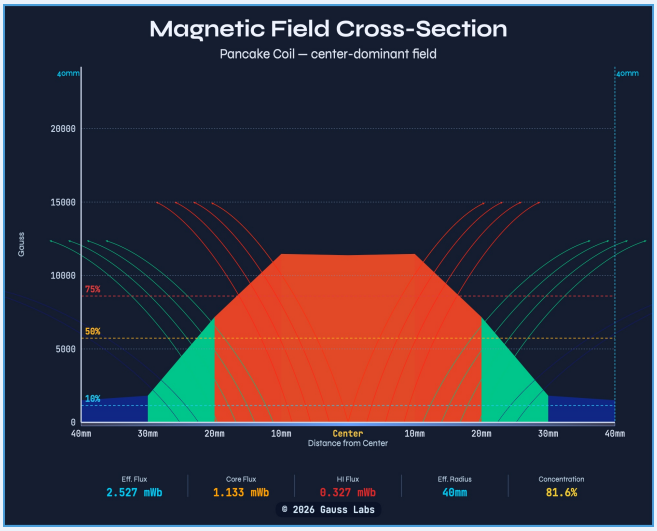
Setting 3



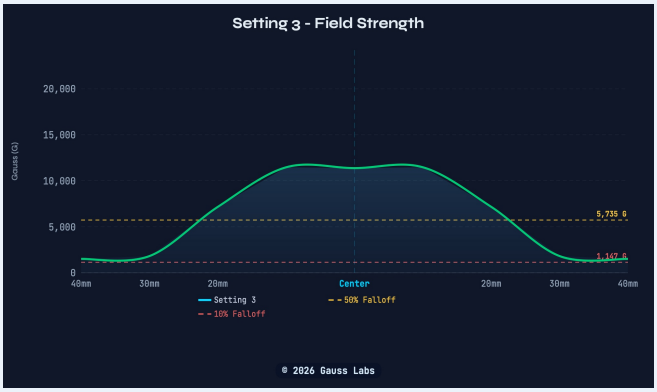
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



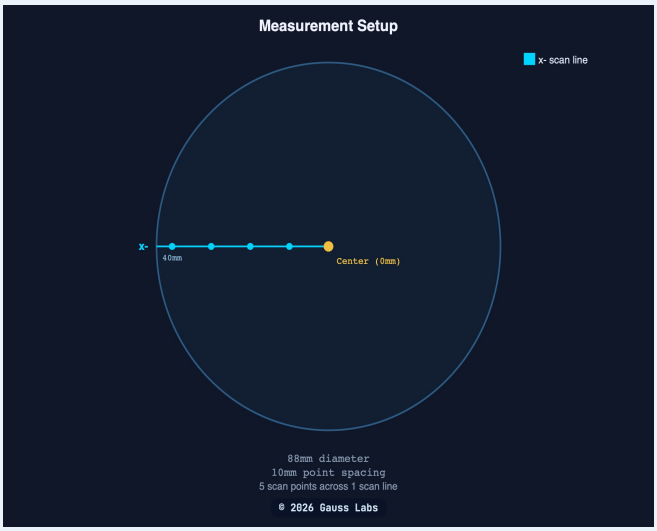
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



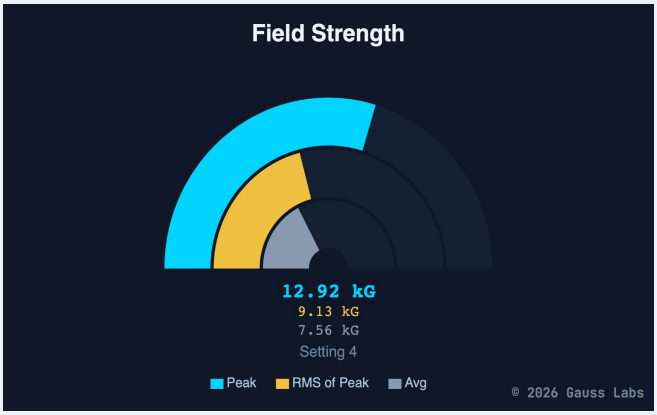
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	11,470.0 Gauss at 10mm
RMS of Peak Field	8,109.3 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	7,975.8 Gauss
Average of Scan Line (all points)	6,670.0 Gauss
Total Effective Flux	2.310 mWb
Therapeutic Core Flux	1.237 mWb
High-Intensity Flux	0.359 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	22.7mm (0.89in)
Coil Type	Pancake Coil (ratio 1.01)
Max Gradient Rate	535.0 G/mm
Ring/Center Ratio	1.01
Measured Axes	x-
Scan Lines	1
Scan Points	5

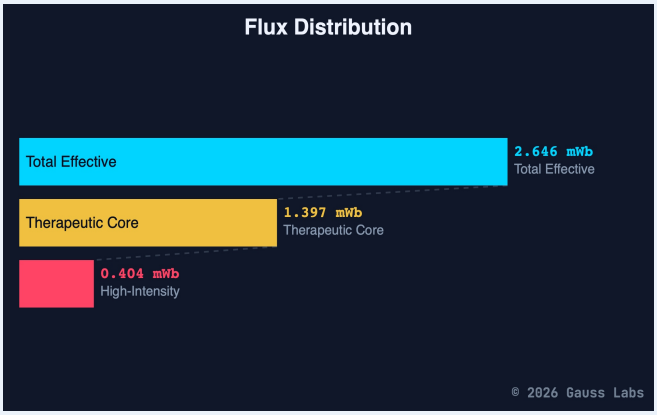
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	11,380.0 Gauss	99.2%
10mm (0.39in)	11,470.0 Gauss	100.0%
20mm (0.79in)	7,170.0 Gauss	62.5%
30mm (1.18in)	1,820.0 Gauss	15.9%
40mm (1.57in)	1,510.0 Gauss	13.2%

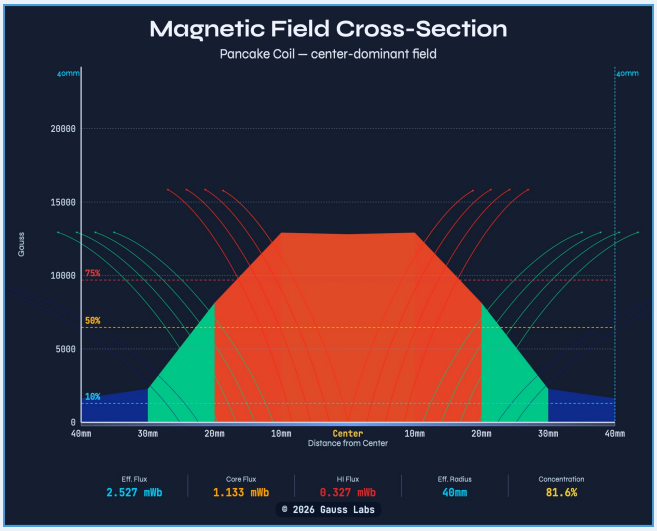
Setting 4



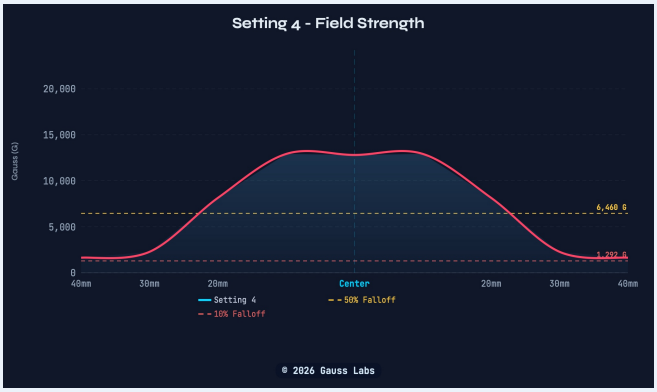
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



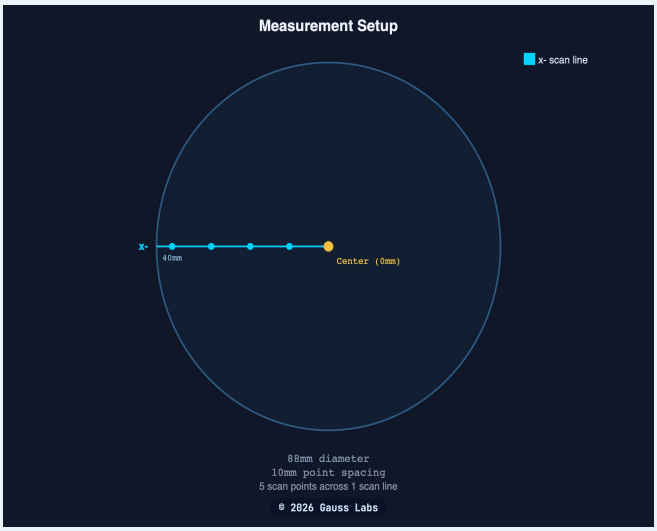
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



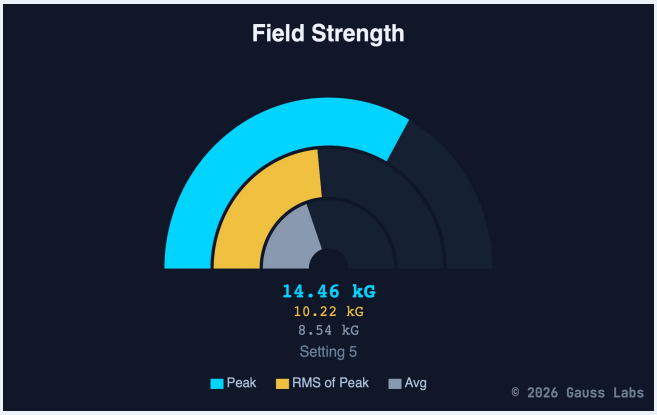
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	12,920.0 Gauss at 10mm
RMS of Peak Field	9,134.4 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	9,001.9 Gauss
Average of Scan Line (all points)	7,558.0 Gauss
Total Effective Flux	2.646 mWb
Therapeutic Core Flux	1.397 mWb
High-Intensity Flux	0.404 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	22.9mm (0.90in)
Coil Type	Pancake Coil (ratio 1.01)
Max Gradient Rate	586.0 G/mm
Ring/Center Ratio	1.01
Measured Axes	x-
Scan Lines	1
Scan Points	5

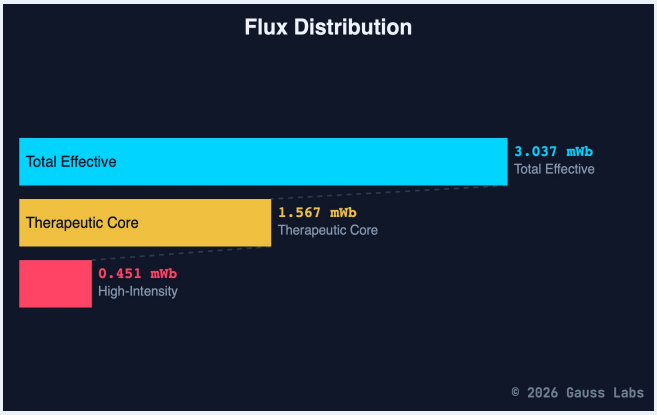
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	12,810.0 Gauss	99.1%
10mm (0.39in)	12,920.0 Gauss	100.0%
20mm (0.79in)	8,140.0 Gauss	63.0%
30mm (1.18in)	2,280.0 Gauss	17.6%
40mm (1.57in)	1,640.0 Gauss	12.7%

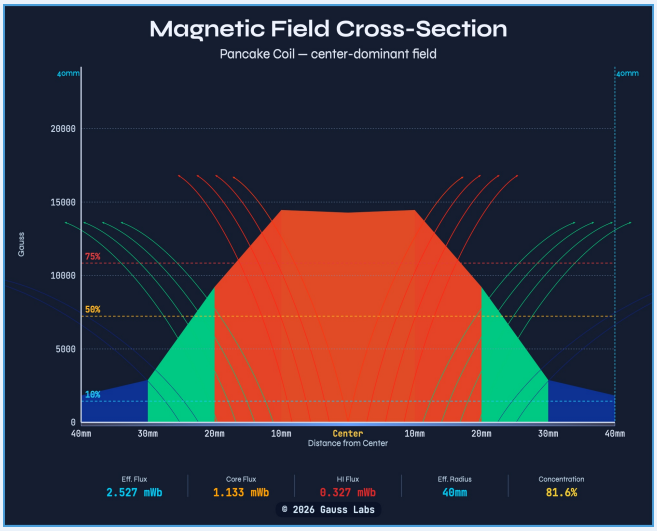
Setting 5



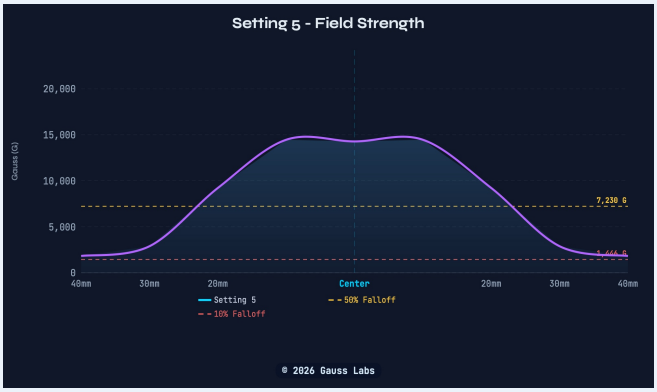
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



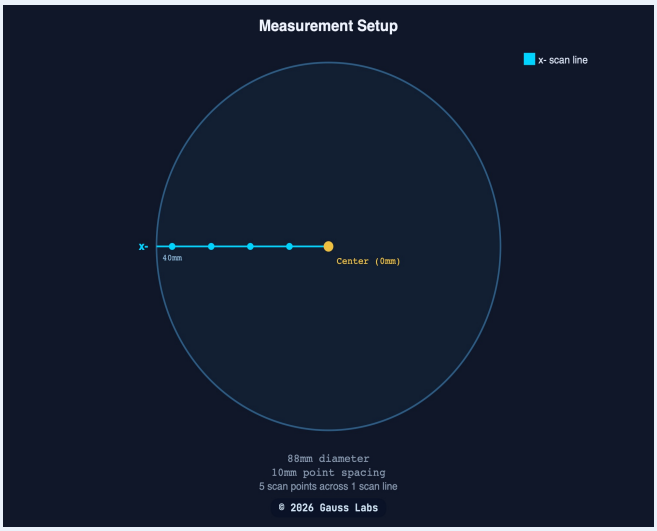
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



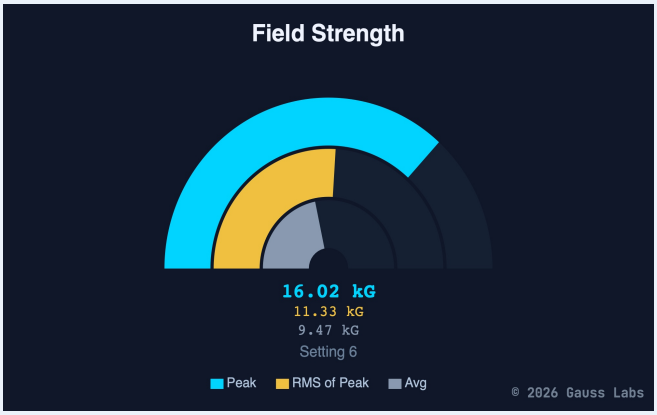
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	14,460.0 Gauss at 10mm
RMS of Peak Field	10,223.2 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	10,096.7 Gauss
Average of Scan Line (all points)	8,536.0 Gauss
Total Effective Flux	3.037 mWb
Therapeutic Core Flux	1.567 mWb
High-Intensity Flux	0.451 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	23.1mm (0.91in)
Coil Type	Pancake Coil (ratio 1.01)
Max Gradient Rate	633.0 G/mm
Ring/Center Ratio	1.01
Measured Axes	x-
Scan Lines	1
Scan Points	5

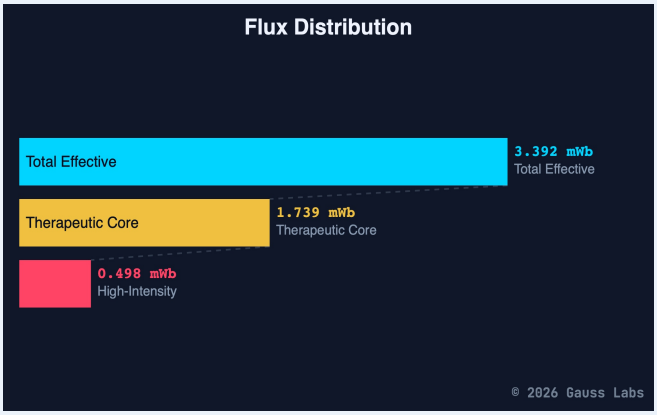
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	14,280.0 Gauss	98.8%
10mm (0.39in)	14,460.0 Gauss	100.0%
20mm (0.79in)	9,220.0 Gauss	63.8%
30mm (1.18in)	2,890.0 Gauss	20.0%
40mm (1.57in)	1,830.0 Gauss	12.7%

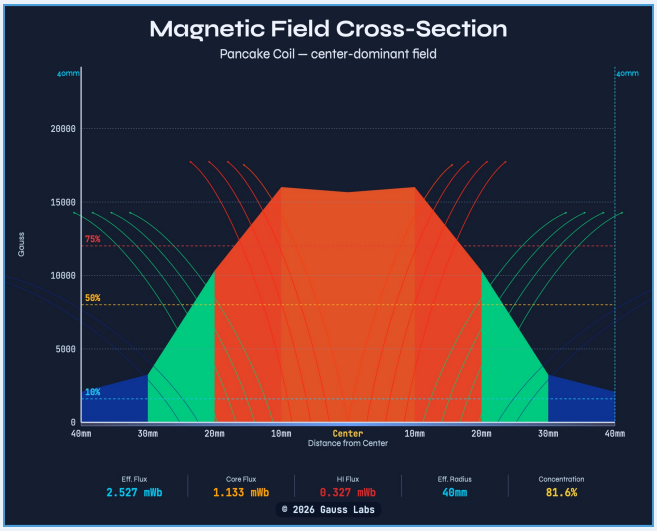
Setting 6



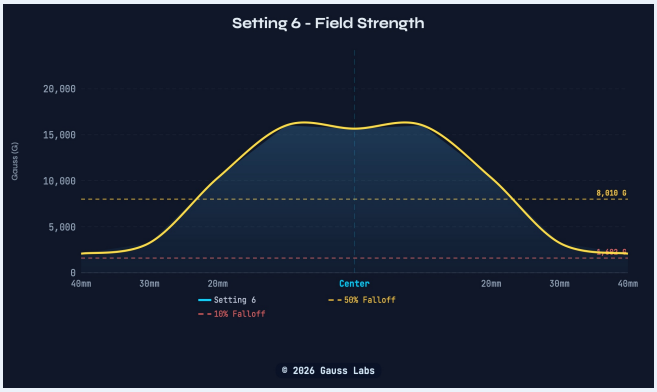
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



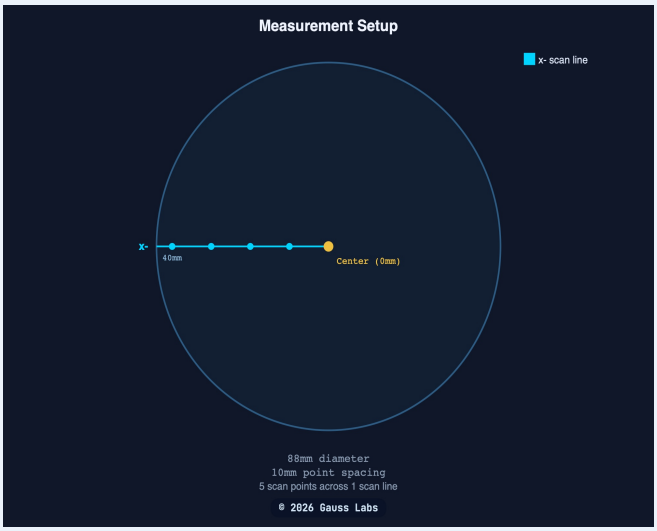
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



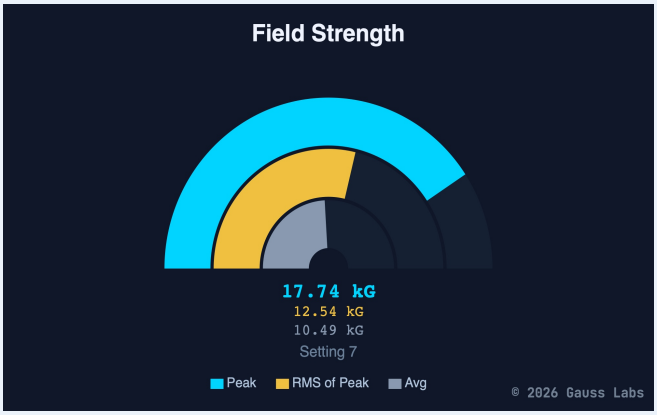
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	16,020.0 Gauss at 10mm
RMS of Peak Field	11,326.1 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	11,169.5 Gauss
Average of Scan Line (all points)	9,470.0 Gauss
Total Effective Flux	3.392 mWb
Therapeutic Core Flux	1.739 mWb
High-Intensity Flux	0.498 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	23.3mm (0.92in)
Coil Type	Pancake Coil (ratio 1.02)
Max Gradient Rate	708.0 G/mm
Ring/Center Ratio	1.02
Measured Axes	x-
Scan Lines	1
Scan Points	5

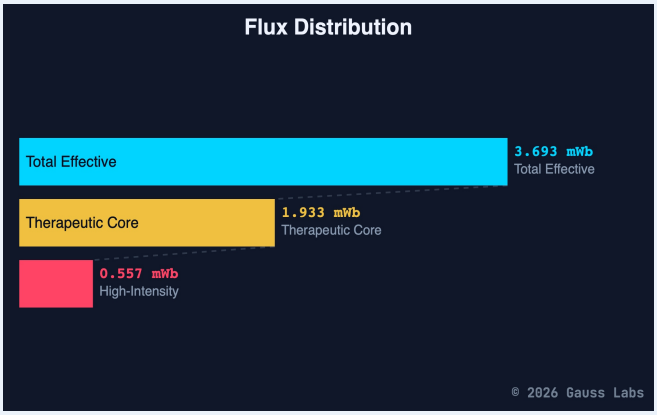
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	15,670.0 Gauss	97.8%
10mm (0.39in)	16,020.0 Gauss	100.0%
20mm (0.79in)	10,330.0 Gauss	64.5%
30mm (1.18in)	3,250.0 Gauss	20.3%
40mm (1.57in)	2,080.0 Gauss	13.0%

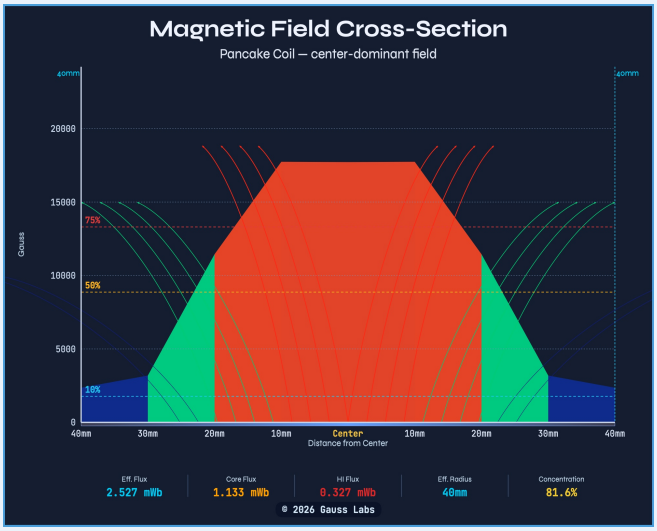
Setting 7



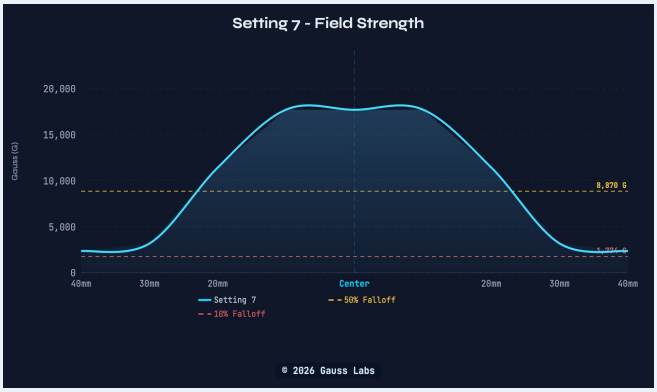
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



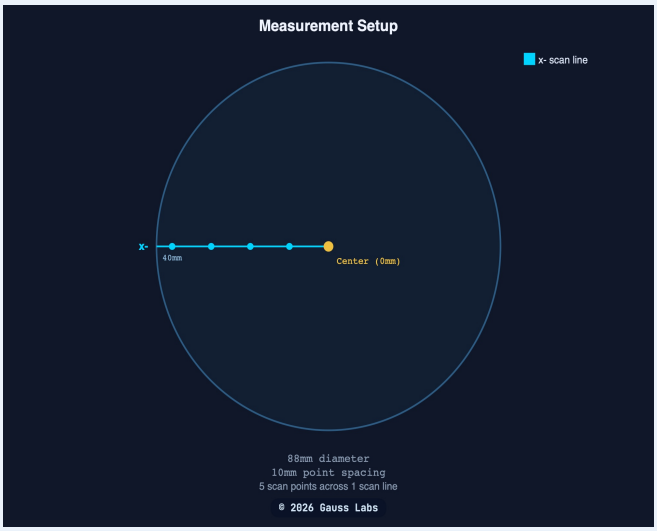
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



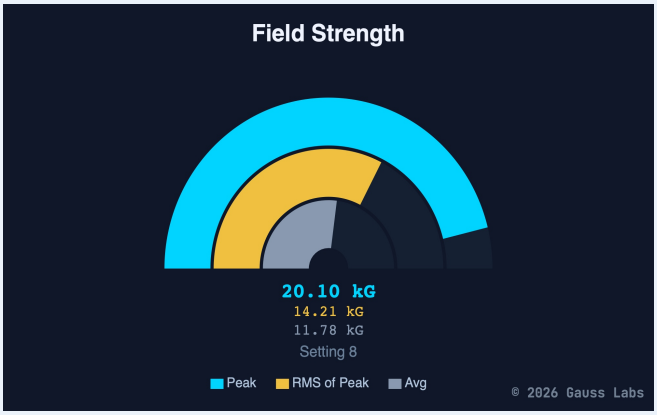
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	17,740.0 Gauss at 10mm
RMS of Peak Field	12,542.2 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	12,454.4 Gauss
Average of Scan Line (all points)	10,492.0 Gauss
Total Effective Flux	3.693 mWb
Therapeutic Core Flux	1.933 mWb
High-Intensity Flux	0.557 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	23.1mm (0.91in)
Coil Type	Pancake Coil (ratio 1.00)
Max Gradient Rate	826.0 G/mm
Ring/Center Ratio	1.00
Measured Axes	x-
Scan Lines	1
Scan Points	5

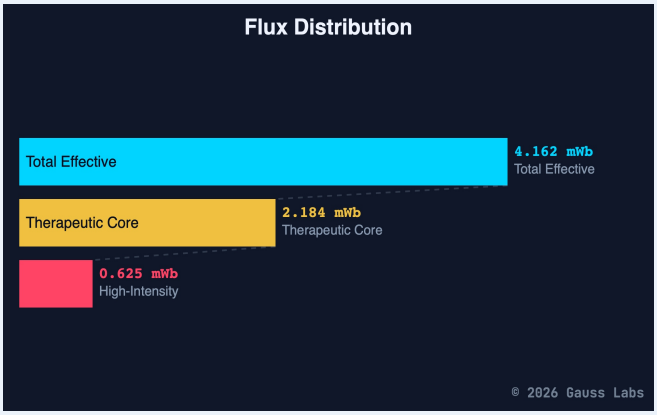
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	17,720.0 Gauss	99.9%
10mm (0.39in)	17,740.0 Gauss	100.0%
20mm (0.79in)	11,450.0 Gauss	64.5%
30mm (1.18in)	3,190.0 Gauss	18.0%
40mm (1.57in)	2,360.0 Gauss	13.3%

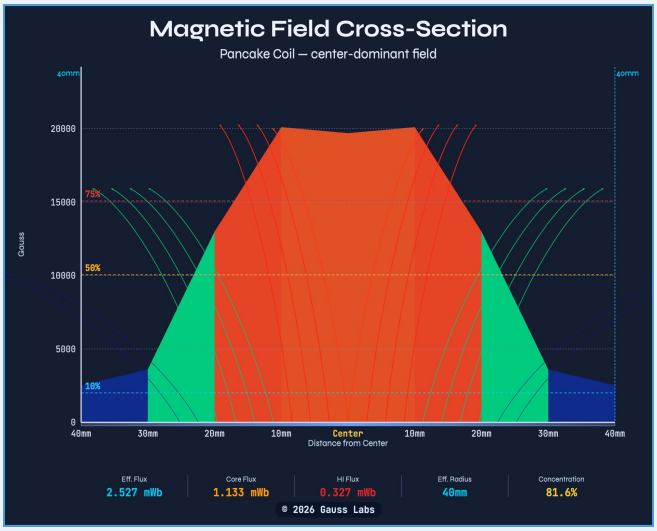
Setting 8



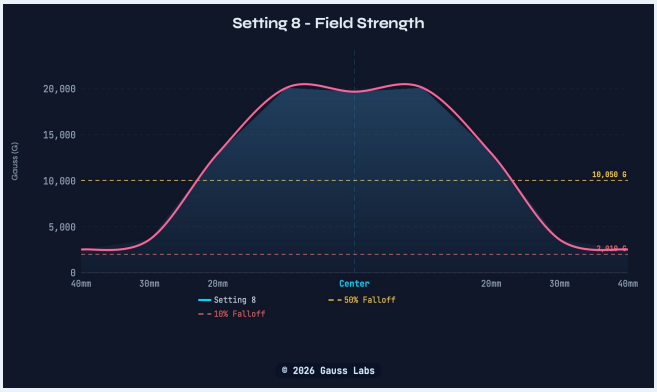
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



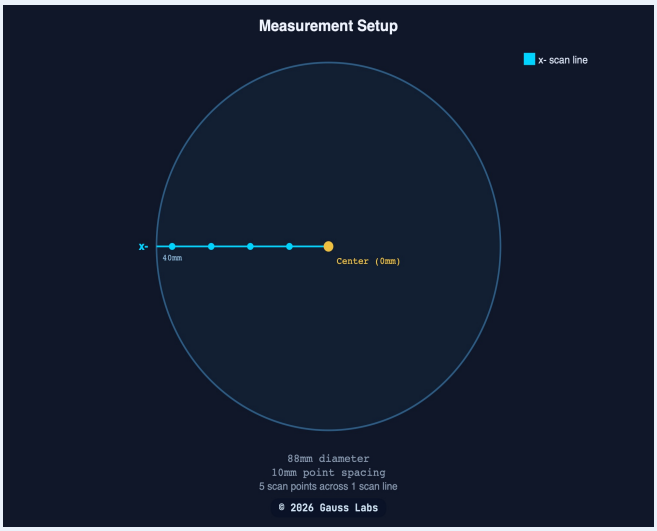
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



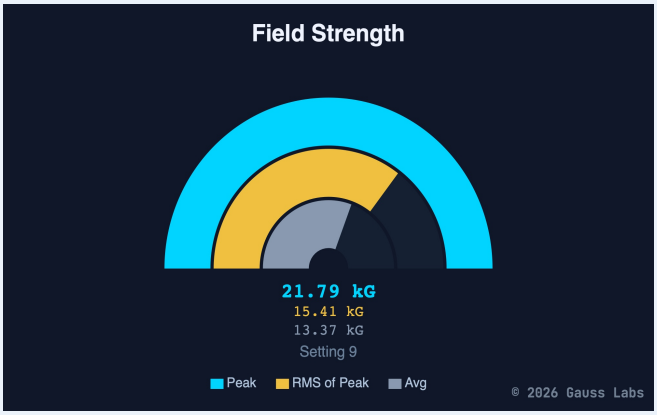
Axes and scan points measured for this setting.

Metric	Value
Peak Field Strength	20,100.0 Gauss at 10mm
RMS of Peak Field	14,210.7 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	13,998.8 Gauss
Average of Scan Line (all points)	11,782.0 Gauss
Total Effective Flux	4.162 mWb
Therapeutic Core Flux	2.184 mWb
High-Intensity Flux	0.625 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	23.1mm (0.91in)
Coil Type	Pancake Coil (ratio 1.02)
Max Gradient Rate	938.0 G/mm
Ring/Center Ratio	1.02
Measured Axes	x-
Scan Lines	1
Scan Points	5

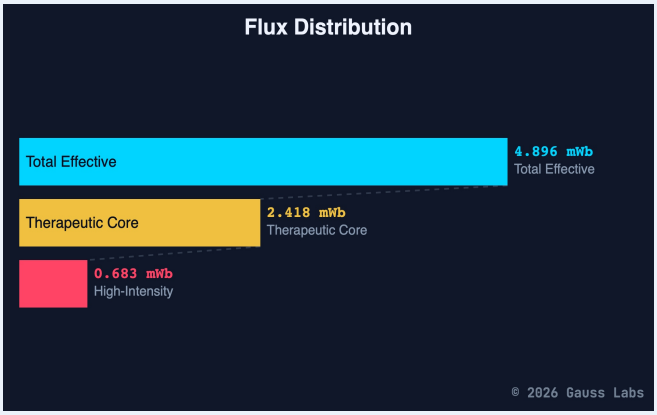
Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	19,690.0 Gauss	98.0%
10mm (0.39in)	20,100.0 Gauss	100.0%
20mm (0.79in)	12,990.0 Gauss	64.6%
30mm (1.18in)	3,610.0 Gauss	18.0%
40mm (1.57in)	2,520.0 Gauss	12.5%

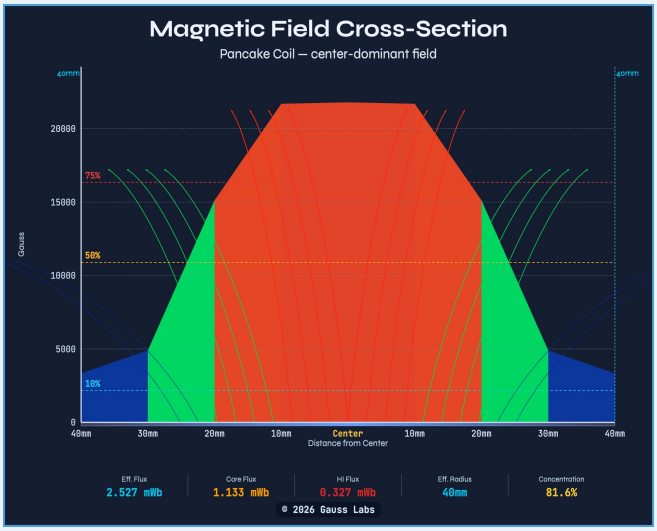
Setting 9



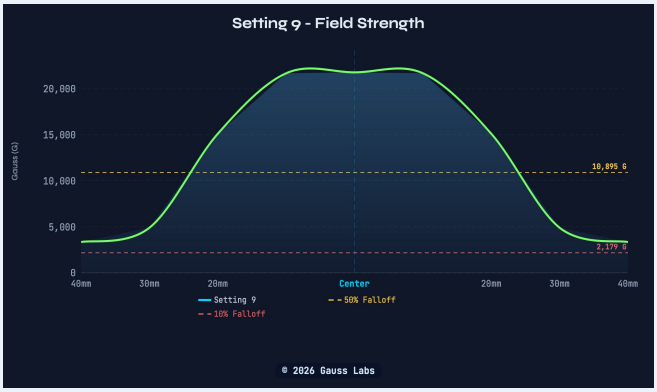
Three layered arcs showing Peak (outer, cyan), RMS of Peak (middle, gold), and Average (inner, grey). All scale to the global peak.



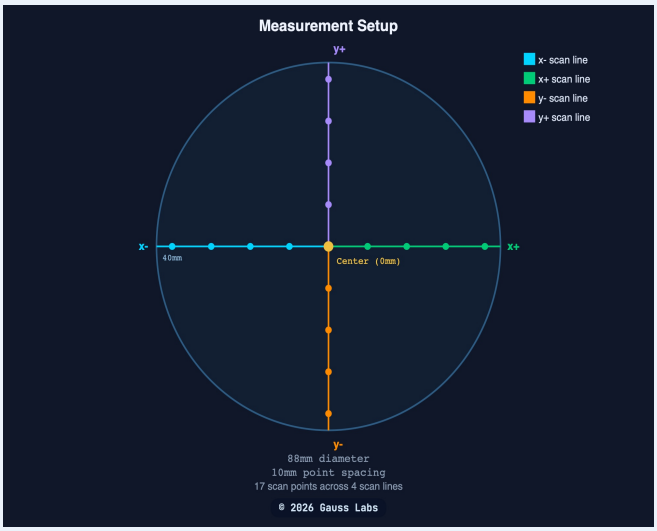
Total Effective Flux (top bar) contains Therapeutic Core (middle, above 50% peak) which contains High-Intensity (bottom, above 75% peak).



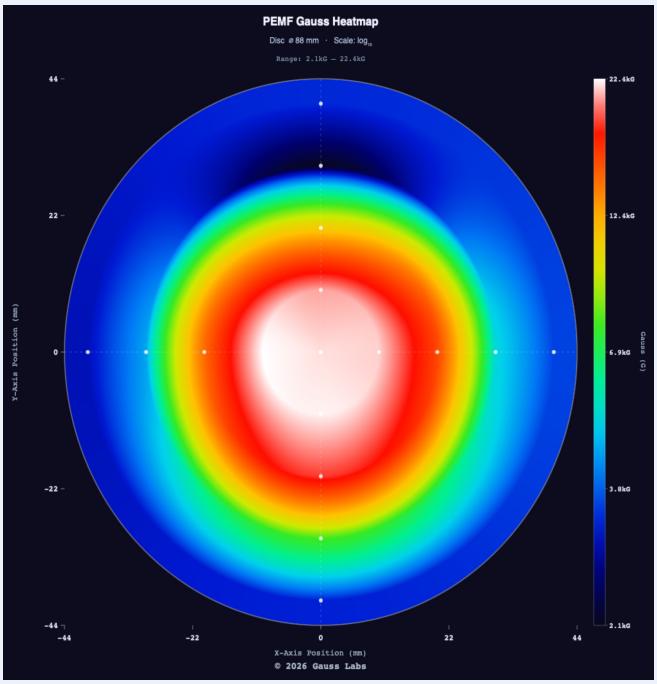
Radial field profile with thermal color-coding, threshold zones, and flux area metrics.



Mirrored bell curve showing field distribution with 50% and 10% falloff thresholds.



Axes and scan points measured for this setting.



Top-down spatial field distribution across the accessory surface.

Metric	Value
Peak Field Strength	21,790.0 Gauss at Center
RMS of Peak Field	15,405.5 Gauss (0.707 x Peak)
RMS of Scan Line (all points)	15,550.3 Gauss
Average of Scan Line (all points)	13,368.5 Gauss
Total Effective Flux	4.896 mWb
Therapeutic Core Flux	2.418 mWb
High-Intensity Flux	0.683 mWb
Effective Field Diameter	80mm (3.15in)
50% Falloff Distance from Center	24.1mm (0.95in)
Coil Type	Pancake Coil (ratio 1.00)
Max Gradient Rate	1,021.8 G/mm
Ring/Center Ratio	1.00
Field Symmetry	93.0%
Measured Axes	x-, x+, y-, y+
Scan Lines	4
Scan Points	17

Field Strength by Distance from Center

Distance from Center	Avg Field	% of Peak
Center (0mm)	21,790.0 Gauss	100.0%
10mm (0.39in)	21,690.0 Gauss	99.5%
20mm (0.79in)	15,120.0 Gauss	69.4%
30mm (1.18in)	4,902.5 Gauss	22.5%
40mm (1.57in)	3,340.0 Gauss	15.3%

Measurement Data

Setting 1

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	1,290.00	-	-	-
30mm	3,860.00	-	-	-
20mm	6,670.00	-	-	-
10mm	10,450.00	-	-	-
Center	10,350.00	-	-	-

Setting 2

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	1,680.00	-	-	-
30mm	1,380.00	-	-	-
20mm	6,060.00	-	-	-
10mm	10,540.00	-	-	-
Center	10,680.00	-	-	-

Setting 3

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	1,510.00	-	-	-
30mm	1,820.00	-	-	-
20mm	7,170.00	-	-	-
10mm	11,470.00	-	-	-
Center	11,380.00	-	-	-

Setting 4

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	1,640.00	-	-	-
30mm	2,280.00	-	-	-
20mm	8,140.00	-	-	-
10mm	12,920.00	-	-	-
Center	12,810.00	-	-	-

Setting 5

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	1,830.00	-	-	-
30mm	2,890.00	-	-	-
20mm	9,220.00	-	-	-
10mm	14,460.00	-	-	-
Center	14,280.00	-	-	-

Setting 6

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	2,080.00	-	-	-
30mm	3,250.00	-	-	-
20mm	10,330.00	-	-	-
10mm	16,020.00	-	-	-
Center	15,670.00	-	-	-

Setting 7

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	2,360.00	-	-	-
30mm	3,190.00	-	-	-
20mm	11,450.00	-	-	-
10mm	17,740.00	-	-	-
Center	17,720.00	-	-	-

Setting 8

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	2,520.00	-	-	-
30mm	3,610.00	-	-	-
20mm	12,990.00	-	-	-
10mm	20,100.00	-	-	-
Center	19,690.00	-	-	-

Setting 9

Distance	x- (G)	x+ (G)	y- (G)	y+ (G)
40mm	3,080.00	3,580.00	3,320.00	3,380.00
30mm	4,500.00	5,190.00	7,790.00	2,130.00
20mm	14,540.00	15,900.00	18,800.00	11,240.00
10mm	22,410.00	21,490.00	22,160.00	20,700.00
Center	21,790.00	21,790.00	21,790.00	21,790.00

Closing Summary

The people and animals who receive PEMF treatment depend entirely on the equipment chosen for them. They cannot evaluate the device themselves -- they trust whoever made that decision. Marketing specifications and manufacturer ratings often do not reflect real-world performance. The same accessory paired with different devices -- or different accessories on the same device -- can produce dramatically different results on the treatment surface. The measurements in this report replace guesswork with verified data for the 2.4 Tesla BBMPulser 5B with Classic 3" Strip Coil 0.6mm, giving you the confidence to make informed decisions.

21.79 kG	4.896 mWb	85.8 %	80 mm	93.0 %
Peak Field Strength	Total Effective Flux	Concentration Score	Effective Field Diameter	Field Symmetry

At 21.79 kG, the 2.4 Tesla BBMPulser 5B with Classic 3" Strip Coil 0.6mm produces a high-intensity magnetic field at the surface, placing it among the more powerful combinations in its class. This combination delivers substantial magnetic energy across the treatment surface (4.896 mWb total effective flux). The field energy is tightly concentrated in the therapeutic core (85.8%) -- ideal for targeted treatment of specific areas. The effective treatment area spans 80mm (3.15in) in diameter -- tissue beyond this boundary receives less than 10% of peak intensity. Field distribution is highly symmetrical (93.0%), indicating even coverage across all measured axes.

Device settings span a wide output range, from 10450 to 21790 G, offering flexibility for different treatment intensities.
This accessory uses a Pancake coil, which produces a center-dominant field pattern with the highest intensity directly over the coil core.

These are independently measured results, not manufacturer specifications. With this data, the device, accessory, and setting selections are based on verified performance rather than marketing claims.

Key Terms

10% Falloff Distance

The distance from center at which the average field strength drops to 10% of its peak value. This is the Effective Field Radius -- the outer boundary used to define the effective field area and limit flux calculations. Field beyond this point is considered fringe field.

50% Falloff Distance

The distance from center at which the average field strength drops to 50% of its peak value. This boundary defines the edge of the Therapeutic Core zone. A shorter 50% falloff distance indicates a more tightly focused field; a longer distance indicates broader coverage.

Accessory

The applicator component that delivers the electromagnetic field to the body, also called an attachment by some manufacturers. It contains one or more coils or loops - wound conductors that generate a pulsed magnetic field when driven by the control unit. Accessories come in various form factors including pads, rings, wraps, and wands, each designed for different anatomical targets. The coil geometry inside the accessory (pancake, donut, loop, stacked) determines the shape, depth, and distribution of the resulting magnetic field.

Accessory Diameter

The overall outer diameter of the accessory enclosure or pad in millimeters - the physical size you would measure with a ruler. Used as the boundary for field coverage analysis, heatmap scaling, and effective area calculations. For loops this refers to the outer edge of the tubing ring, not the inner opening.

Average Field Strength

The arithmetic mean of all Gauss readings along the scan line. For a typical accessory with a peaked field distribution, the average will be well below the peak value because it includes the weaker readings toward the edges. The average represents the overall field level across the full scan but underweights the strong center region compared to RMS. Useful as a baseline measure of how much of the accessory surface delivers meaningful field output.

AWG (American Wire Gauge)

A standardized wire sizing scale used in North America. The scale runs inversely to wire diameter -- a lower AWG number means a thicker wire. 24 AWG is a common coil winding wire; 22 AWG is one step thicker and has roughly half the resistance per unit length of 24 AWG. Thicker wire reduces resistive losses and heat generation in the coil, allowing more current to flow at the same voltage. In PEMF coil design, wire gauge is one of the primary variables controlling coil resistance, heat, and maximum drive current.

Axial Measurement

Field strength measured along the central axis of the applicator coil, perpendicular to its face. Axial readings represent the maximum field value at a given distance and are used as the reference standard for PEMF device characterisation. Field strength falls off rapidly with distance -- values in our reports are at 0mm (contact surface) unless otherwise noted.

Axial Probe

A gauss meter probe whose tip senses the magnetic field along the probe's long axis. Best for discs, pancakes, and donut coils where the field exits perpendicular to the accessory surface - point the tip straight at the coil for a clean reading. Internally the Hall element is oriented so its sensitive axis aligns with the probe shaft, capturing the normal field component.

Center Field Strength

The magnetic field strength measured at the exact center point of the accessory (0mm from center). For pancake coils, this is typically the strongest point. For donut coils, center field is weaker than the ring zone. Comparing center field to peak field gives the Ring/Center Ratio used to identify coil type.

Coil Inductance (L)

The coil's resistance to changes in current flow, which directly determines how fast the magnetic field can rise when power is applied. Higher inductance means slower field buildup but potentially stronger peak field. Measured in Henries (H) or millihenries (mH). Inductance increases with more turns and with ferrite or iron core materials. Combined with resistance, it determines the L/R time constant.

Coil Resistance (R)

The electrical resistance of the coil wire, which determines how much heat is produced during operation and how much voltage the device needs to reach peak current. Lower resistance means less wasted heat and more efficient energy delivery to the magnetic field. Measured in Ohms (Ohm). Resistance decreases with thicker wire (lower AWG number) and increases with temperature.

Coil Type

A classification of the electromagnetic coil inside the accessory based on its measured field distribution. A Pancake Coil produces a center-dominant field with peak strength at the center and rapid falloff outward. A Donut Coil produces a ring-dominant field with peak strength in a ring around the center and a weaker center. Coil type is detected automatically from the scan data by comparing ring zone field strength to center field strength.

Concentration Score

A percentage measuring how much of the total measured field intensity at the accessory surface is concentrated within the therapeutic core (scan points where Gauss is at or above 50% of peak). Calculated as the sum of Gauss values at core points divided by the total sum of all measured Gauss values within the coil boundary. This is a surface concentration metric -- it measures lateral field distribution across the face of the accessory, not depth penetration. A high score (70%+) indicates the field is tightly focused in a narrow zone, typical of tight pancake coils. Donut/ring coils vary widely (40-70%) depending on how broad the ring zone is. Loop coils vary by turn count and diameter. The formula is geometry-independent -- the same calculation applies to all coil types. Scores should be compared within the same coil type for meaningful benchmarks.

Cross-Section

A view of the magnetic field as if the accessory were sliced vertically down the middle and viewed from the side. The cross-section diagram in our reports shows how field strength varies both horizontally across the surface and vertically as the field rises away from the accessory. Color indicates field strength and field lines show direction and relative intensity.

Distance (mm)

The lateral distance from the center of the accessory along the scan line, measured in millimeters. All measurements are taken at a fixed standoff distance from the coil face. Readings begin at Center (0mm) and extend outward in defined increments toward the edge of the accessory.

Donut Coil

A flat coil wound in a ring shape with an open hole through the center, fully encased within its housing so the field is measured along the surface face only. The enclosed design means treatment is applied through the top or bottom face rather than through the center hole, producing a broader, more even field distribution with stronger output near the outer ring of windings. Identified by a peak that sits off-center on a ring (at least 20% of the way out along the scan) AND a Ring/Center Ratio of at least 1.15; because fewer total windings than a solid pancake

of the same diameter, it produces lower peak Gauss at the face and requires additional drive current to match a pancake's penetration depth.

Drive Voltage (V)

The voltage applied across the coil by the driver circuit at the start of a pulse. Drive voltage is the primary control over how quickly current builds in the coil: a higher voltage forces current through the coil inductance faster, shortening rise time and increasing slew rate. For a given coil (fixed L and R), doubling the drive voltage approximately halves the rise time and doubles the achievable slew rate. Drive voltage is typically set by the device's power supply and H-bridge or switching topology. In capacitor-discharge devices, the initial drive voltage is determined by the capacitor charge level, which may be user-adjustable. Increasing drive voltage is one of the most effective ways to resolve incomplete pulse buildup (low Pulse Completeness) without changing the coil design.

Duty Cycle (%)

What fraction of each pulse cycle the magnetic field is actually on versus off -- for example, a 50% duty cycle means the field is on for half the time and off for half the time. Higher duty cycles deliver more total energy but generate more heat. Expressed as a percentage of the total cycle time.

Effective Field Area

The region of the accessory surface where the magnetic field is strong enough to be therapeutically useful -- defined as the area where field strength is at or above 10% of peak. Tissue within this area receives meaningful stimulation; tissue outside it receives negligible field. The boundary of this area defines the Effective Field Diameter.

Effective Field Diameter

The total width of the area covered by meaningful magnetic field output -- tissue outside this diameter receives very weak field (less than 10% of peak). This tells you how large the treatment zone is. Calculated as twice the distance from center where the field drops to 10% of its peak strength. Primarily determined by coil diameter and geometry -- drive voltage does not significantly change it.

Effective Field Radius

The distance from center at which the magnetic field drops to 10% of its peak value -- this defines how far from center the field is still therapeutically meaningful. Half of the Effective Field Diameter. Tissue beyond this radius receives less than 10% of peak intensity. Primarily determined by coil diameter and geometry, not drive voltage or pulse parameters.

Extra Points Beyond Edge

Additional measurement points placed beyond the accessory's outer edge to capture how the magnetic field falls off into open space. Improves heatmap quality at the boundaries and shows where the therapeutic field actually ends rather than where the coil ends. Default: 1 extra point for discs and loops, 0 for rectangular mats. Spacing of these points anchors from the accessory edge, not from the last interior measurement.

Field Falloff

The rate at which magnetic field strength decreases as you move laterally from the peak along the scan line. Measured at a fixed distance from the coil face. A steeper falloff indicates the field is more concentrated near the peak, while a gradual falloff indicates broader coverage across the accessory surface.

Field Symmetry

How evenly the magnetic field is distributed across all four measurement axes (x-, x+, y-, y+). A high symmetry score means the field strength is nearly identical in all directions from center -- the coil produces a uniform, balanced output. A low score reveals directional bias where some axes are significantly stronger or weaker than others. Calculated by comparing each individual axis reading to the mean of all 4 axes at each distance,

weighted by field strength (stronger readings count more). The score uses a 15% floor (ignoring weak-field areas below 15% of peak) and a 15% deviation cap. Requires all 4 axes. Score = 100 - weighted average deviation percentage.

Fill Factor

The ratio of wire cross-sectional area to the total available winding window area in a coil. A higher fill factor means more copper is packed into the same space, reducing resistance and increasing field strength for a given coil volume. Fill factor is affected by wire gauge, insulation thickness, and winding technique. Hand-wound coils typically achieve 60-70% fill factor; machine-wound coils with precise layer control can reach 80-85%. A low fill factor wastes available winding space and leaves field strength and efficiency on the table.

Flux Concentration

The percentage of total measured field intensity at the accessory surface that falls within the therapeutic core -- scan points where Gauss is at or above 50% of peak field strength. This is a surface concentration metric measuring lateral field distribution, not depth penetration. A high score means most of the accessory's magnetic energy is focused in a narrow region on the surface. A low score means the energy is spread across a wider surface area. Pancake coils typically score highest (70%+). Donut/ring coils vary widely (40-70%) depending on how broad the ring zone is. Loop coils vary based on turn count and diameter.

Gauss (G)

The unit of measurement for magnetic flux density. Higher gauss values indicate a stronger magnetic field at that point. kG = kilogauss = 1,000 gauss. 1 Tesla = 10,000 Gauss; see Tesla (T).

Gauss Meter

A calibrated instrument used to measure magnetic flux density in Gauss or Tesla. In PEMF accessory testing, the Gauss meter is the primary measurement device used to capture field strength at each scan point. Measurements are taken using a Hall effect probe positioned at the specified standoff distance from the coil face. The meter model and probe type should be documented in the Report Info for traceability.

Gauss Meter Probe

The sensing element of a Gauss meter, typically a Hall effect transducer mounted on a flat or axial probe tip. The probe is positioned at the measurement standoff distance from the coil face to capture the magnetic flux density at each scan point. Probe type (axial vs transverse), size, and positioning affect measurement accuracy. The probe model should be documented in the Report Info for traceability.

Gradient

How quickly the magnetic field strength changes as you move across the accessory surface. A steep gradient means the field drops off sharply from the peak, indicating a tightly focused hot spot. A shallow gradient means the field is more evenly spread. Measured in Gauss per millimeter (G/mm) along the scan line.

Gradient Rate (G/mm)

How steeply the magnetic field drops off as you move away from the peak -- a higher gradient rate means the field changes more dramatically over a short distance. High gradient rates are typical near coil edges and in donut coils where the field transitions sharply. Measured as the maximum change in Gauss between adjacent scan points divided by their spacing in millimeters.

Heatmap

A color-coded chart where each color represents a field strength value across the surface of the accessory. Warmer colors (red/orange) indicate higher gauss output; cooler colors (blue/green) indicate lower field strength. The heatmap provides an immediate visual overview of where the field is strongest and how it is distributed.

High-Intensity Flux

The portion of Total Effective Flux contained within the zone where field strength exceeds 75% of peak. Expressed in milliweber (mWb). This is a subset of both Total Effective Flux and Therapeutic Core Flux -- the most concentrated magnetic energy output. In the Flux Distribution chart, this is the bottom (smallest) bar. The ratio of High-Intensity Flux to Total Effective Flux indicates how much energy is concentrated in the strongest zone.

High-Intensity Zone

The innermost region of the magnetic field where strength is above 75% of peak. This represents the most concentrated portion of the field output -- the area of deepest and most intense penetration. For a pancake coil this zone is centered; for a donut coil it follows the ring pattern of the coil.

Interpolation

A technique for estimating field strength values between measured data points, producing a smooth, continuous heatmap instead of a sparse grid of dots. Without interpolation, gaps between measurement points can hide important field features like hotspots or dead zones. Common methods include bilinear and bicubic interpolation, which weight nearby measured values to predict the field at unmeasured locations.

Kilogauss (kG)

A unit of magnetic flux density equal to 1,000 Gauss (G). Used when field strength values are high enough that expressing them in Gauss would be unwieldy. In our reports, peak field strength is displayed in kG when it exceeds 1,000 G.

L/R Time Constant

How quickly current and magnetic field build up in the coil when power is applied -- this directly affects how sharp and strong the pulse edge is. A shorter time constant means faster rise and more responsive pulses. Technically, tau = L/R where L is coil inductance (Henries) and R is total series resistance (Ohms). Current reaches 63% of its final value after 1 tau and 99% after 5 tau. The pulse width must exceed 5 tau for the coil to fully build current and deliver maximum peak Gauss.

LCR Meter

A test instrument used to measure the electrical properties of a coil -- specifically its inductance (L), capacitance (C), and resistance (R). These measurements are needed to calculate the L/R time constant, predict pulse behavior, and verify coil quality. The meter model should be documented in the Report Info for traceability.

Loop Coil

An open electromagnetic coil designed to be placed around a limb or curved around a body part, so the magnetic field passes through from all sides simultaneously. Unlike the enclosed donut coil, a loop is open - limbs can be passed through it for surrounding coverage of arms, legs, or joints. The field profile is similar to a donut coil with peak strength in the ring zone, but the open geometry allows flexible placement; measurements are taken at 50% of the tubing thickness from the surface.

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Loop Inner Diameter

The diameter of the open center of a loop coil in millimeters - the inside edge of the tubing ring. Defines where the wire path begins; the magnetic field concentrates between the inner and outer diameters. Used together with

Loop Outer Diameter to describe the loop geometry; measurements skip the wire zone between these two values.

Loop Outer Diameter

The overall outer diameter of a loop coil in millimeters - the outside edge of the tubing ring. Marks the boundary where the wire path ends and the external field begins to fall off. The accessory's nominal size (e.g., a 15-inch loop) usually refers to this outer dimension.

Measurement Origin

All measurements are taken from the center of the accessory and extend outward in both directions along the X and Y axes. The center point is labeled 0mm, with distances increasing symmetrically toward the edges.

Pancake Coil

A flat, disc-shaped coil (also called a flat spiral) that produces a strong, focused magnetic field directly beneath its center -- ideal for targeted treatment of a specific area. The field is strongest at center and drops off toward the edges. Wound in a spiral with all windings in the same plane. Identified by a peak at or near the center -- specifically, when the coil does not meet the Donut criteria.

Peak Field

The highest magnetic field strength produced by an accessory, measured at the coil face. Where the peak occurs depends on coil geometry: a pancake coil peaks at the center of the face, while a donut or loop coil peaks in a ring near the windings rather than at the center opening.

Peak Gauss (G)

The maximum magnetic flux density at the accessory surface (0 mm distance). The location of this maximum depends on the coil geometry - center-face for a pancake coil, ring-zone for a donut or loop coil.

PEMF (Pulsed Electromagnetic Field)

A therapeutic technology that delivers time-varying electromagnetic pulses to the body at specific frequencies and intensities. Unlike static magnets, PEMF creates dynamic fields that induce microcurrents in tissue according to Faraday's law of induction. These induced currents can influence cellular membrane potential, ion transport, and metabolic activity. PEMF is used to support circulation, recovery, pain management, and general wellness, with devices ranging from low-intensity consumer units to high-intensity professional systems.

Penetration Depth

The distance from the coil surface at which the magnetic field remains therapeutically significant. There is no single universal threshold - penetration depth is typically defined relative to a percentage of peak field strength (commonly 50% or 10%) and depends heavily on coil geometry, peak Gauss, and the tissue being treated. Larger coils with higher peak field produce deeper usable penetration. Field strength falls off approximately as the cube of distance from a small coil, so doubling distance reduces field strength by roughly 8x. Penetration depth is not a fixed property of a device - it is a function of output level and target threshold.

Point Spacing

The distance between adjacent measurement points along a scan line, in millimeters. Smaller spacing captures more detail in regions where the field changes quickly (near coil edges or wire path); larger spacing is fine for slowly varying interior regions. Recommended starting values: 10mm for discs and pancakes, 25mm for loops, 15-25mm for rectangular mats - adjust based on accessory size to keep about 8-12 points per half-axis.

Pulse Width (us)

Duration of a single pulse measured at the 50% amplitude threshold. Distinct from duty cycle, which expresses pulse width as a fraction of the full period. Longer pulse widths deliver more cumulative field exposure per cycle.

Radial

Describes measurements that extend outward from a central origin point in all directions, like spokes on a wheel. In our reports, radial scan data means measurements were taken along a straight path from the center of the accessory outward, and calculations such as Weber flux use the radial geometry to estimate the full circular field distribution.

Ring/Center Ratio

A numeric ratio comparing the peak field strength of a coil to the field strength at the center. A ratio of at least 1.15 combined with a peak sitting at least 20% off-center indicates a Donut Coil - the ring is meaningfully stronger than the center. A ratio near 1.0 with a centered peak indicates a Pancake Coil - the center dominates. The ring zone location varies with coil size and is determined by where the windings are concentrated rather than a fixed distance.

Rise Time

How quickly the magnetic field reaches its peak strength during a pulse -- faster rise time means a sharper pulse edge and stronger tissue stimulation. This is one of the most important pulse characteristics for therapeutic effectiveness. Measured as the 10%-to-90% transition time of the magnetic field pulse, typically captured with an oscilloscope.

RMS Field Strength

The statistical root mean square of all Gauss readings along the scan line. Calculated by squaring each reading, averaging the squares, then taking the square root: sqrt(sum(G^2)/n). This RMS of Scan Line value reflects the effective energy content across all measurement points, including both peak and low-field areas. It is always higher than the arithmetic average for peaked data because squaring amplifies larger values. This differs from RMS of Peak Field, which is a theoretical value derived from the peak reading alone.

RMS of Peak Field

The equivalent steady-state field strength that would deliver the same energy as the peak pulsed field. This is useful for comparing pulsed PEMF output to continuous magnetic field sources. Calculated as 0.707 times the peak Gauss reading (1/sqrt(2) x peak). Unlike the RMS of Scan Line (which averages across all measurement points), this value is derived solely from the peak reading.

Scan Line

A single row of field strength measurements captured by sweeping a Gauss probe across the accessory surface at a fixed standoff distance from the coil face. The probe moves laterally from center outward, recording the field at each measurement point along the way. All readings in a scan line share the same distance from the coil.

Scan Point

An individual measurement location along a scan line. Each scan point records the magnetic field strength at a specific lateral distance from the center of the accessory, all at the same fixed standoff distance from the coil face. The more scan points collected along the scan line, the more accurate the field profile and derived calculations such as flux and gradient.

Slew Rate (G/us)

How rapidly the magnetic field strength changes during a pulse edge - a higher slew rate means a sharper, more abrupt field change, which induces stronger electric fields in tissue. Devices report a separate slew rate for the rising edge (Peak Gauss ÷ Rise Time) and the falling edge (Peak Gauss ÷ Fall Time); both contribute to cumulative dose, see Total Stimulation Intensity. Expressed in Gauss per microsecond (G/us). The rising-edge slew rate is the same physical quantity as Peak dB/dt, framed as an engineering performance metric rather than a safety threshold.

Stacked Tolerance

The cumulative effect of multiple component tolerances combining across a circuit or system. When several components each carry their own tolerance, the real-world output can deviate significantly from design intent -- not because any single part is out of spec, but because all their individual variations add together. In a PEMF pulse circuit, stacked tolerances across the timing capacitor, drive resistor, coil inductance, and switching transistor can shift the actual pulse width, peak current, and field strength well outside the expected range. Worst-case stacked tolerance analysis identifies the maximum possible deviation by assuming every component simultaneously sits at its worst allowable extreme.

Standoff Distance

The gap between the probe tip and the accessory surface during measurement, in millimeters. Magnetic field strength falls off rapidly with distance, so the standoff must be consistent across all measurement points to make readings comparable. For discs and pancakes, place the probe directly on the surface (0mm standoff); for loops, hold the probe at the midpoint of the tubing along an even horizontal plane.

Tesla (T)

An alternative unit of magnetic flux density. 1 Tesla = 10,000 Gauss; see Gauss (G). Tesla is commonly used in clinical and scientific literature, so knowing the conversion helps when comparing PEMF devices across different sources. Most PEMF accessories operate in the milliTesla (mT) range.

Therapeutic Core

The zone of the magnetic field where strength is above 50% of the peak value. This is the region of highest therapeutic relevance, where the field is strong enough to deliver meaningful energy to tissue. The Therapeutic Core Flux metric quantifies the total magnetic flux within this zone.

Therapeutic Core Flux

The portion of Total Effective Flux contained within the Therapeutic Core -- the zone where field strength is at or above 50% of peak. Expressed in milliweber (mWb). This is a subset of Total Effective Flux and represents the most therapeutically relevant energy. In the Flux Distribution chart, this is the middle bar. High-Intensity Flux is a further subset within Therapeutic Core Flux.

Thermal Load

How much heat the coil continuously produces during operation -- determines whether the accessory needs cooling and affects how long treatment sessions can safely run. Higher thermal load means more energy is wasted as heat instead of becoming magnetic field. Expressed as average power dissipation in milliwatts (mW), calculated from coil resistance and current.

Thermal Throttling

A protective reduction in output power triggered when a device's internal temperature exceeds a safe operating limit. In PEMF devices running at high frequency or high duty cycle, resistive losses in the coil and driver circuit generate heat. If the device does not have sufficient thermal mass or cooling, temperature rises until firmware or hardware limits reduce drive current, pulse width, or repetition rate to protect components. The result is that measured output at the beginning of a session may be higher than output after several minutes of operation. Thermal throttling is a sign that the device is being pushed near its sustained power limit.

Tolerance

The allowable deviation from a specified nominal value in a component or measurement. In electronics, every resistor, capacitor, and inductor is manufactured within a tolerance range -- typically ±1%, ±5%, or ±10% -- meaning the actual value may differ from the labeled value by that percentage. In PEMF devices, component tolerances directly affect output field strength, pulse timing, and frequency accuracy. A capacitor rated 100uF ±10% may measure anywhere from 90uF to 110uF, shifting resonant frequency and peak Gauss output

accordingly.

Total Effective Flux

The total magnetic flux integrated across the coil area -- from center to the coil boundary (or the 10% falloff boundary if the coil diameter is not specified). Expressed in milliweber (mWb). This is the widest flux zone and represents all magnetic energy delivered within the coil's physical area. In the Flux Distribution chart, this is the top bar. Therapeutic Core Flux and High-Intensity Flux are both subsets of Total Effective Flux.

Transverse Probe

A gauss meter probe whose tip senses the magnetic field perpendicular to the probe shaft (sometimes called a flat probe). Best for loops and butterfly coils where the field runs parallel to the accessory surface near the wire - lay the probe flat along the surface for a clean reading. The Hall element is mounted facing outward from the side of the probe, capturing the tangential field component.

Turn Count

The total number of wire loops wound into a coil. Turn count is one of the most fundamental variables in coil design. Magnetic field strength scales linearly with turn count (B proportional to N*I), so doubling the turns doubles the field for the same current. However, inductance scales with the square of turn count (L proportional to N^2), so doubling the turns quadruples inductance and significantly slows current rise time. This is the core trade-off in PEMF coil design: more turns produce higher Gauss but slower rise time and lower slew rate. Turn count is verified during manufacturing using an LCR meter, since inductance provides a reliable indirect measure of N.

Weber / Milliweber (Wb / mWb)

Units that measure the total amount of magnetic energy passing through an area. Milliweber (mWb) is the standard unit used in PEMF accessory reports because the values are in a convenient range. One milliweber equals one thousandth of a Weber. Higher mWb values mean more total magnetic energy is being delivered to the treatment area.

X-Axis / Y-Axis

The two directional components of the magnetic field measured at each point. In some configurations both axes may reflect the same value, indicating a symmetrical field.