

DUTY CYCLE

TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

If the transmit duty cycle < 98 percent, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Attenuator	Fairview Microwave	SA18H-20	UAZ	2026-03-25	2027-03-25
Block - DC	Aeroflex	INMET 8535	AMO	2025-12-04	2026-12-04
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2025-10-21	2026-10-21
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2026-03-24	2027-03-24

DUTY CYCLE



EUT:	Lantern Refresh Surgical Assistant (LSA)	Work Order:	ORTH0042
Serial Number:	2528001	Date:	2026-04-30
Customer:	OrthAlign	Temperature:	23.8°C
Attendees:	Larry Varnado, Kian Gholizadeh	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure (PMSL):	1012 mbar
Tested By:	Kyle Fujimoto	Job Site:	OC07
Power:	4.5 Vdc via Battery	Configuration:	ORTH0042-2

COMMENTS

Reference Level Offset includes Cable Loss, Pigtail Loss, 20 dB Attenuator, and DC Block

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

Kyle Fujimoto

Tested By

TEST RESULTS

	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A ()	Results
20 MHz BW						
802.11(b) 1 Mbps						
Low Channel 1, 2412 MHz	12.432 ms	12.542 ms	1	99.1	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	12.432 ms	12.542 ms	1	99.1	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	12.432 ms	12.587 ms	1	98.8	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
802.11(b) 11 Mbps						
Low Channel 1, 2412 MHz	1.305 ms	1.433 ms	1	91.1	N/A	N/A
	N/A	N/A	6	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	1.307 ms	1.459 ms	1	89.6	N/A	N/A
	N/A	N/A	4	N/A	N/A	N/A
High Channel 11, 2462 MHz	1.306 ms	1.451 ms	1	90	N/A	N/A
	N/A	N/A	6	N/A	N/A	N/A
802.11(g) 6 Mbps						
Low Channel 1, 2412 MHz	2.065 ms	2.225 ms	1	92.8	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	2.064 ms	2.191 ms	1	94.2	N/A	N/A
	N/A	N/A	6	N/A	N/A	N/A
High Channel 11, 2462 MHz	2.065 ms	2.18 ms	1	94.7	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 36 Mbps						
Low Channel 1, 2412 MHz	364.8 us	470.5 us	1	77.5	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A

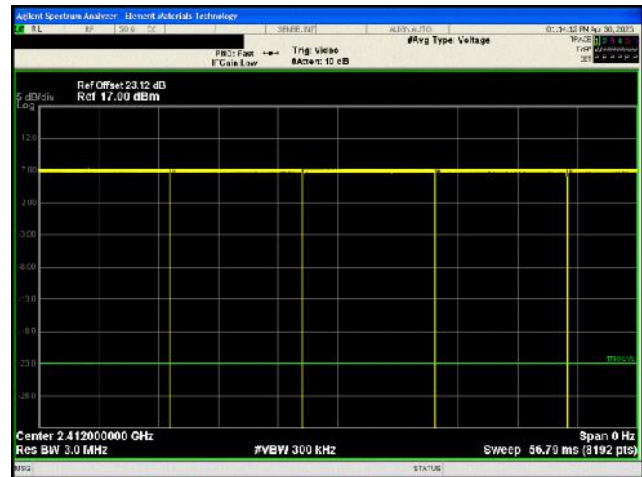
DUTY CYCLE

	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A ()	Results
Mid Channel 6, 2437 MHz	364.8 us	470.4 us	1	77.6	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	364.6 us	515.5 us	1	70.7	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 54 Mbps						
Low Channel 1, 2412 MHz	248.6 us	417.6 us	1	59.5	N/A	N/A
	N/A	N/A	6	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	248.5 us	390.5 us	1	63.6	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	248.5 us	360.2 us	1	69	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS0						
Low Channel 1, 2412 MHz	1.926 ms	2.03 ms	1	94.9	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	1.925 ms	2.031 ms	1	94.8	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	1.925 ms	2.035 ms	1	94.6	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS7						
Low Channel 1, 2412 MHz	228.5 us	343.5 us	1	66.5	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	228.6 us	397.5 us	1	57.5	N/A	N/A
	N/A	N/A	4	N/A	N/A	N/A
High Channel 11, 2462 MHz	228.6 us	343.4 us	1	66.6	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
40 MHz BW						
802.11(n) MCS0						
Low Channel 1/5, 2422 MHz	949.3 us	1.108 ms	1	85.7	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 4/8, 2437 MHz	948.8 us	1.09 ms	1	87	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
High Channel 7/11, 2452 MHz	951.2 us	1.09 ms	1	87.2	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS7						
Low Channel 1/5, 2422 MHz	128.6 us	243.2 us	1	52.9	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 4/8, 2437 MHz	128.3 us	268.5 us	1	47.8	N/A	N/A
	N/A	N/A	2	N/A	N/A	N/A
High Channel 7/11, 2452 MHz	128.5 us	234.2 us	1	54.9	N/A	N/A
	N/A	N/A	5	N/A	N/A	N/A

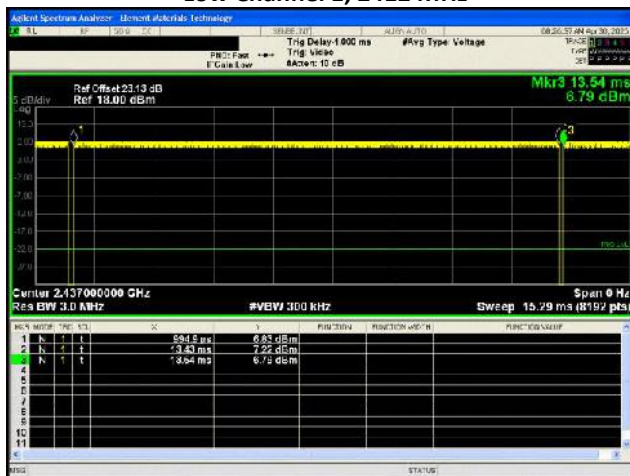
DUTY CYCLE



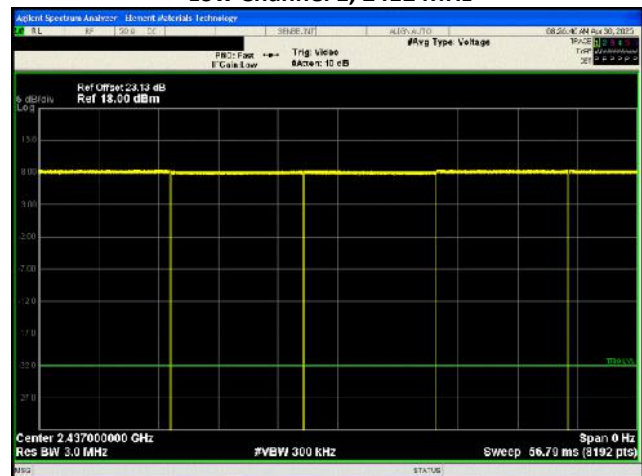
20 MHz BW
802.11(b) 1 Mbps
Low Channel 1, 2412 MHz



20 MHz BW
802.11(b) 1 Mbps
Low Channel 1, 2412 MHz



20 MHz BW
802.11(b) 1 Mbps
Mid Channel 6, 2437 MHz

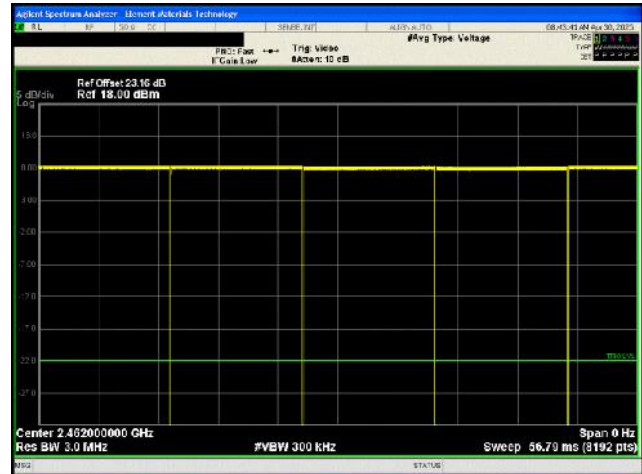


20 MHz BW
802.11(b) 1 Mbps
Mid Channel 6, 2437 MHz

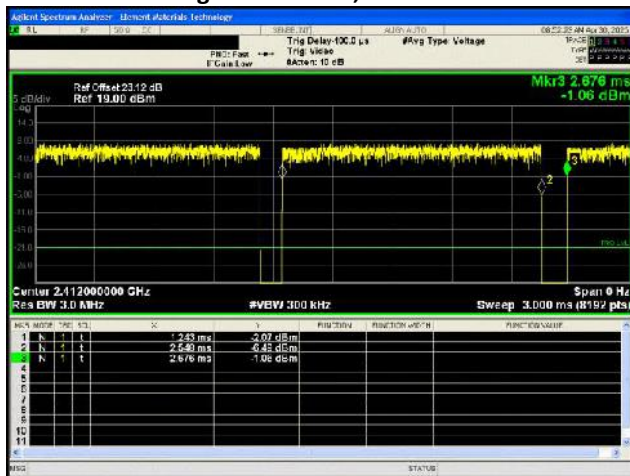
DUTY CYCLE



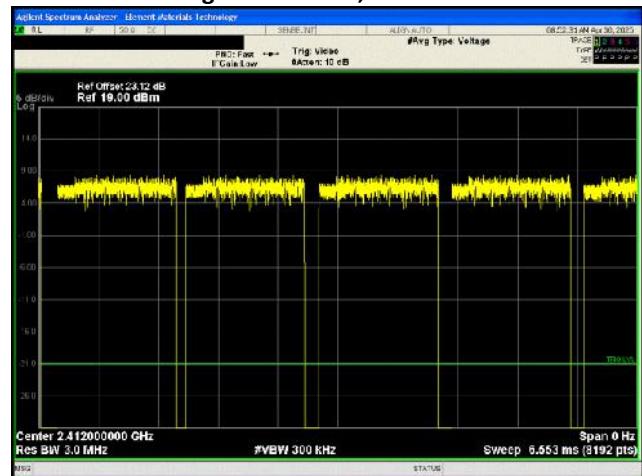
20 MHz BW
802.11(b) 1 Mbps
High Channel 11, 2462 MHz



20 MHz BW
802.11(b) 1 Mbps
High Channel 11, 2462 MHz

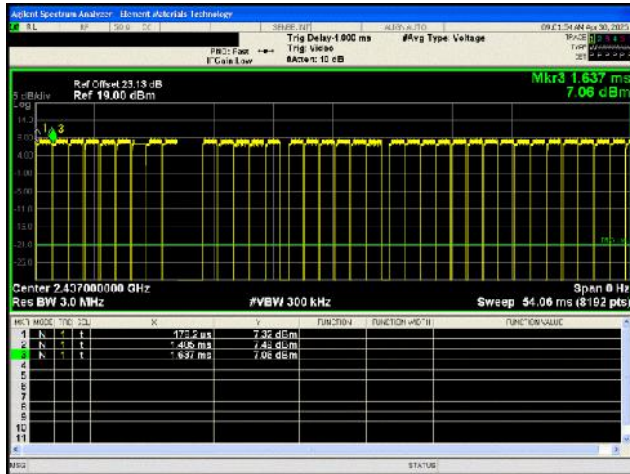


20 MHz BW
802.11(b) 11 Mbps
Low Channel 1, 2412 MHz

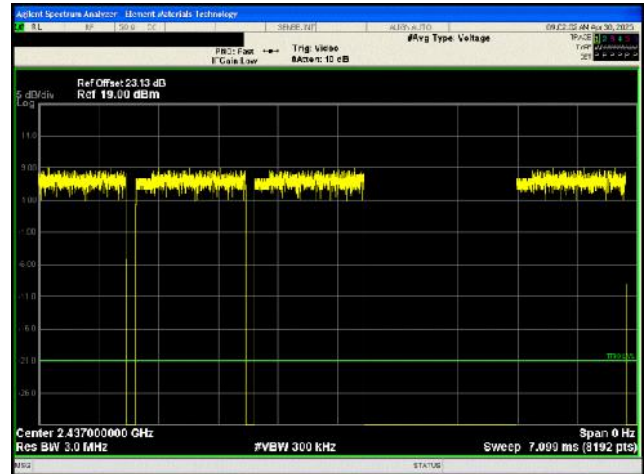


20 MHz BW
802.11(b) 11 Mbps
Low Channel 1, 2412 MHz

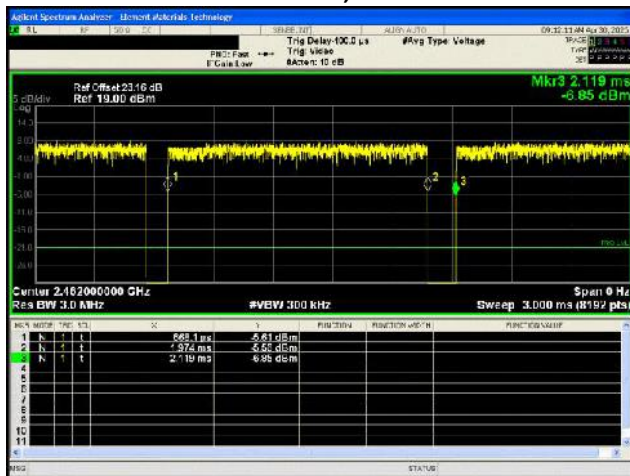
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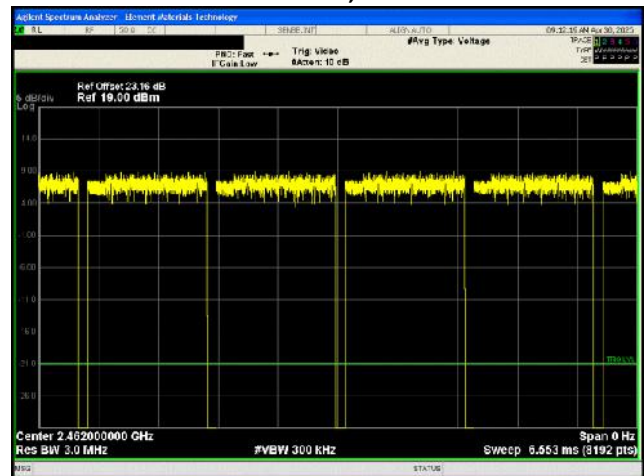
20 MHz BW
802.11(b) 11 Mbps
Mid Channel 6, 2437 MHz



20 MHz BW
802.11(b) 11 Mbps
Mid Channel 6, 2437 MHz

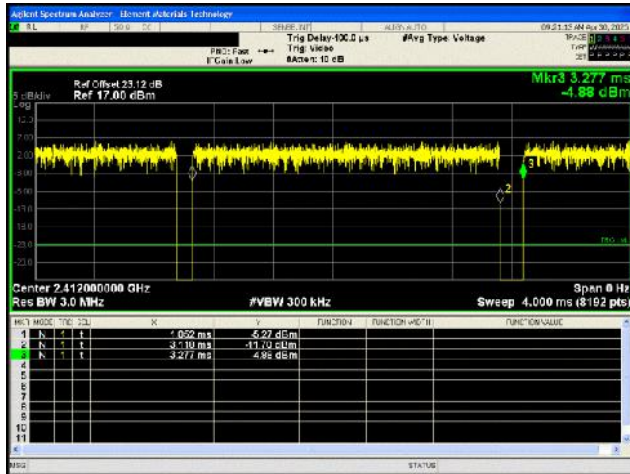


20 MHz BW
802.11(b) 11 Mbps
High Channel 11, 2462 MHz

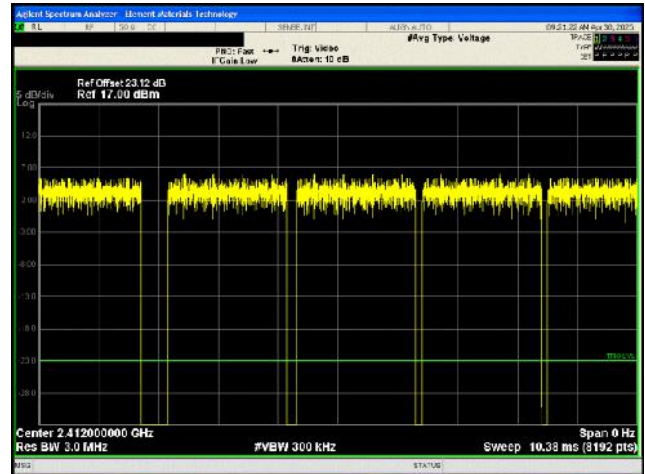


20 MHz BW
802.11(b) 11 Mbps
High Channel 11, 2462 MHz

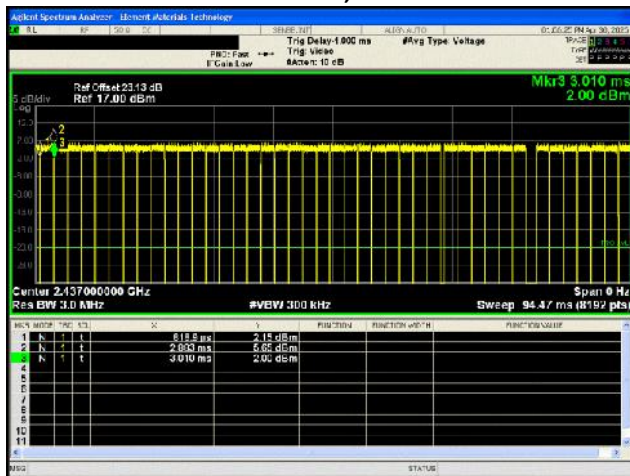
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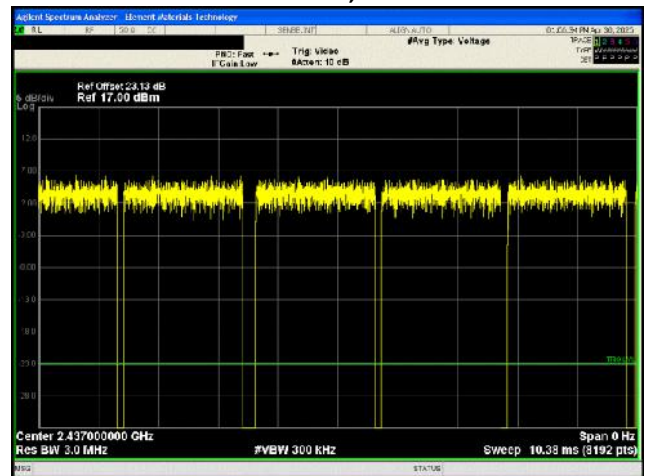
20 MHz BW
802.11(g) 6 Mbps
Low Channel 1, 2412 MHz



20 MHz BW
802.11(g) 6 Mbps
Low Channel 1, 2412 MHz

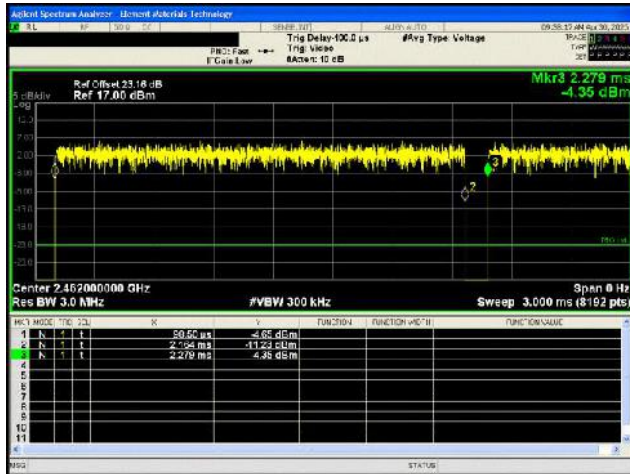


20 MHz BW
802.11(g) 6 Mbps
Mid Channel 6, 2437 MHz

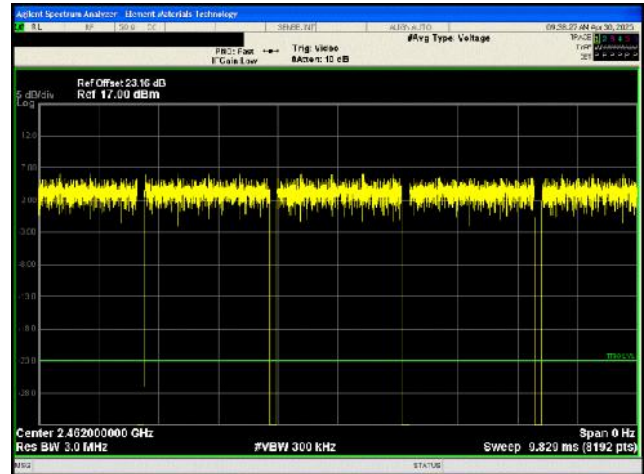


20 MHz BW
802.11(g) 6 Mbps
Mid Channel 6, 2437 MHz

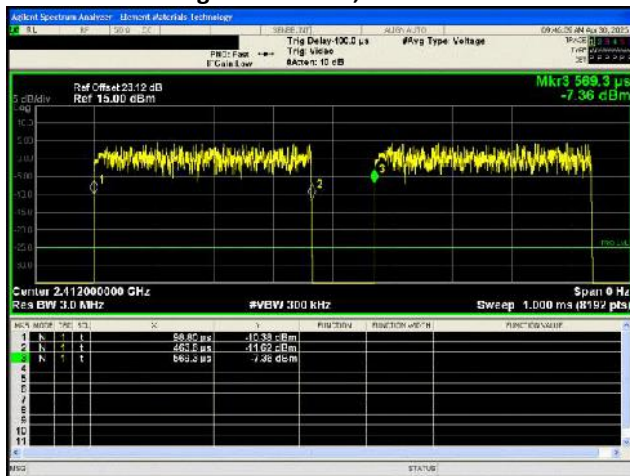
DUTY CYCLE



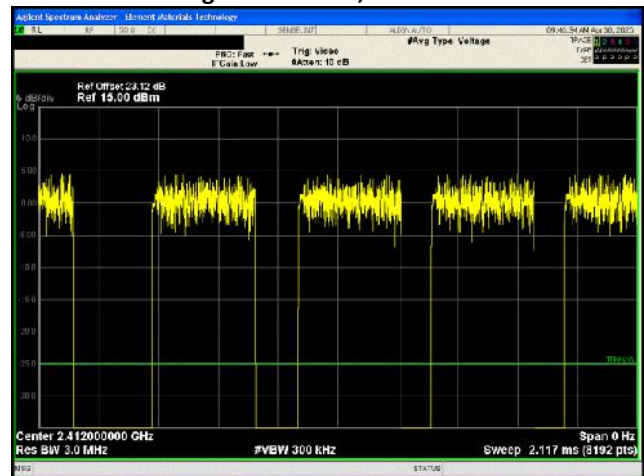
20 MHz BW
802.11(g) 6 Mbps
High Channel 11, 2462 MHz



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802.11(g) 6 Mbps
High Channel 11, 2462 MHz

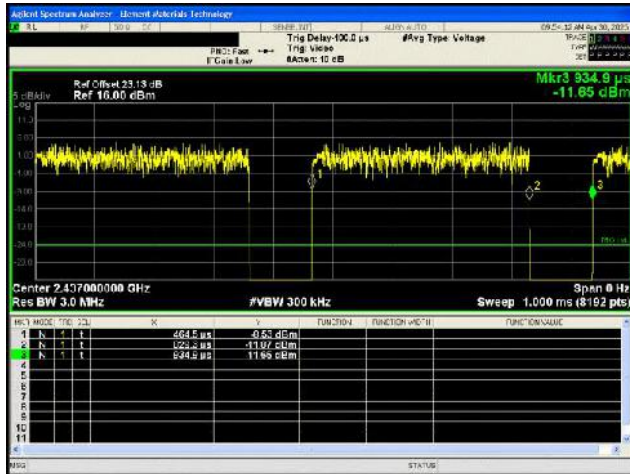


20 MHz BW
802.11(g) 36 Mbps
Low Channel 1, 2412 MHz

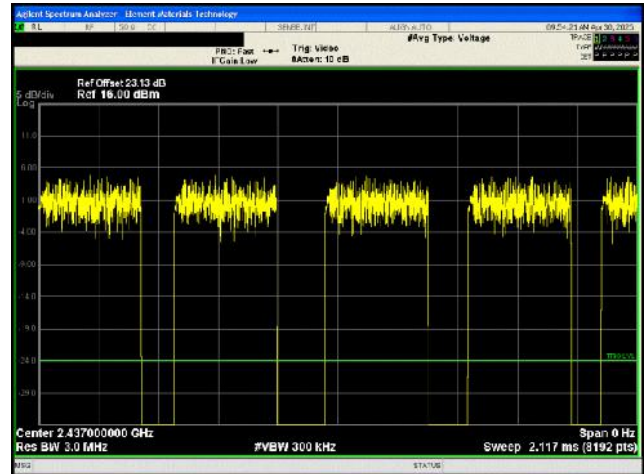


20 MHz BW
802.11(g) 36 Mbps
Low Channel 1, 2412 MHz

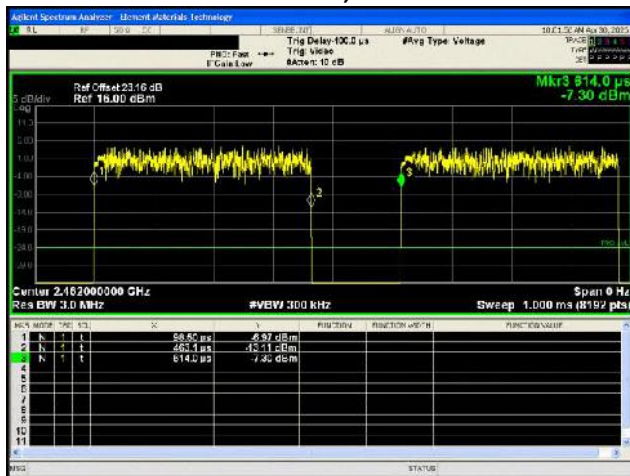
DUTY CYCLE



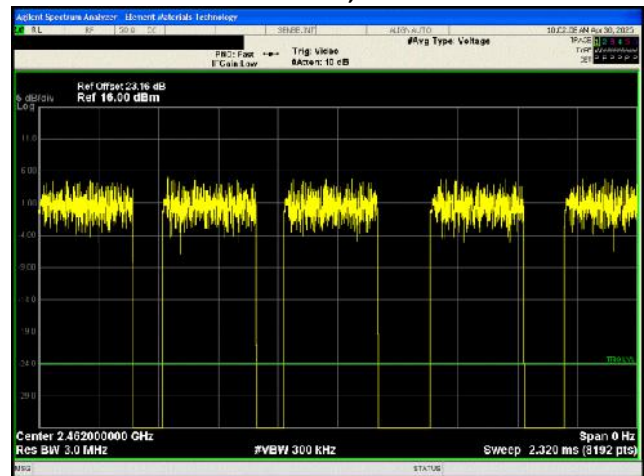
20 MHz BW
802.11(g) 36 Mbps
Mid Channel 6, 2437 MHz



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802.11(g) 36 Mbps
Mid Channel 6, 2437 MHz

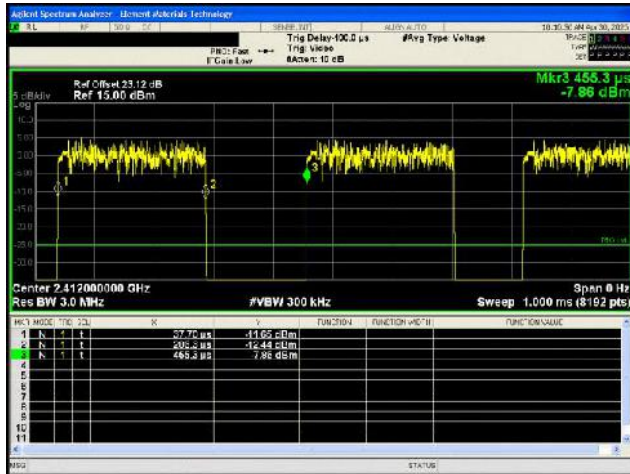


20 MHz BW
802.11(g) 36 Mbps
High Channel 11, 2462 MHz

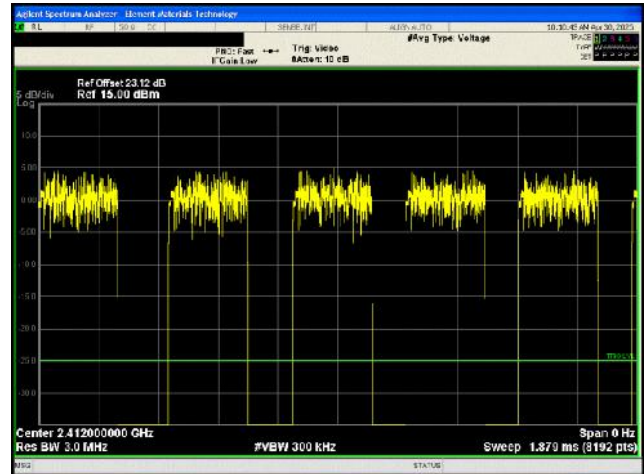


20 MHz BW
802.11(g) 36 Mbps
High Channel 11, 2462 MHz

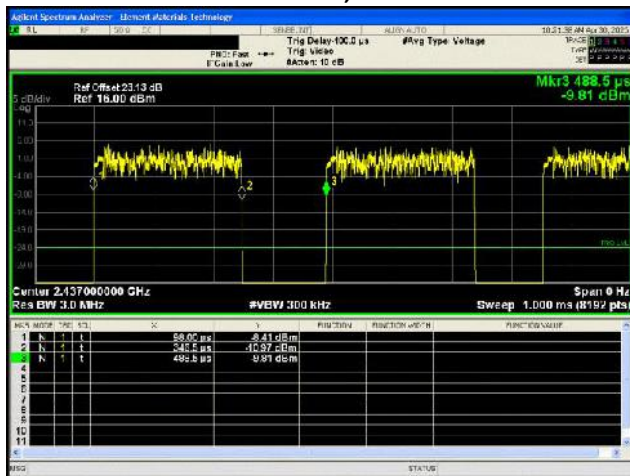
DUTY CYCLE



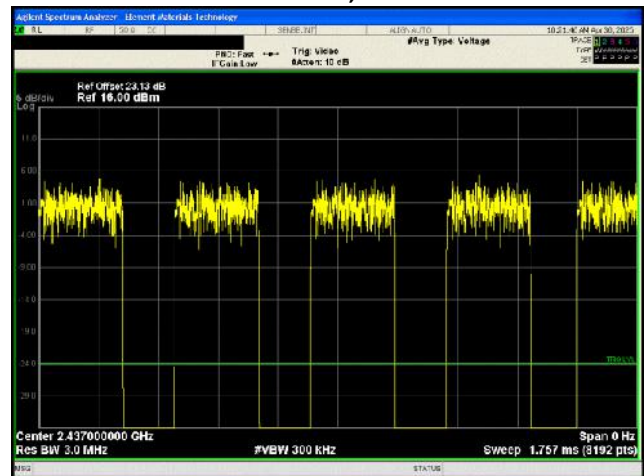
20 MHz BW
802.11(g) 54 Mbps
Low Channel 1, 2412 MHz



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802.11(g) 54 Mbps
Low Channel 1, 2412 MHz

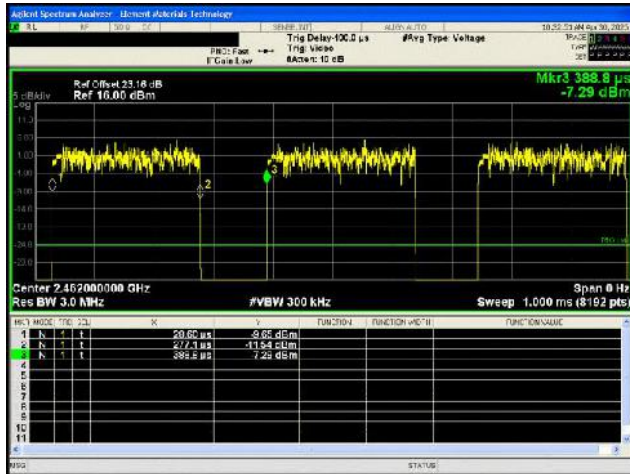


20 MHz BW
802.11(g) 54 Mbps
Mid Channel 6, 2437 MHz

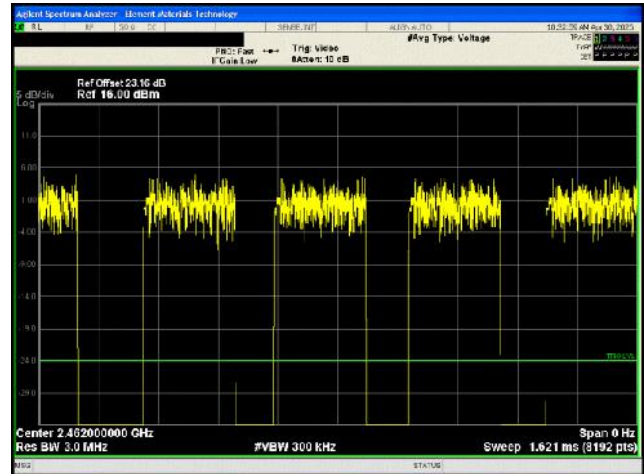


20 MHz BW
802.11(g) 54 Mbps
Mid Channel 6, 2437 MHz

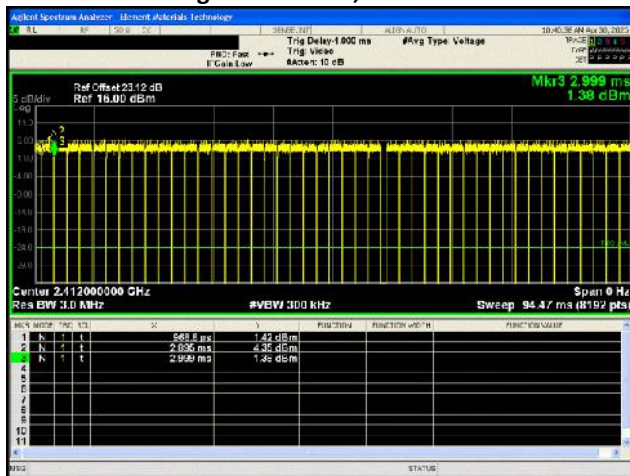
DUTY CYCLE



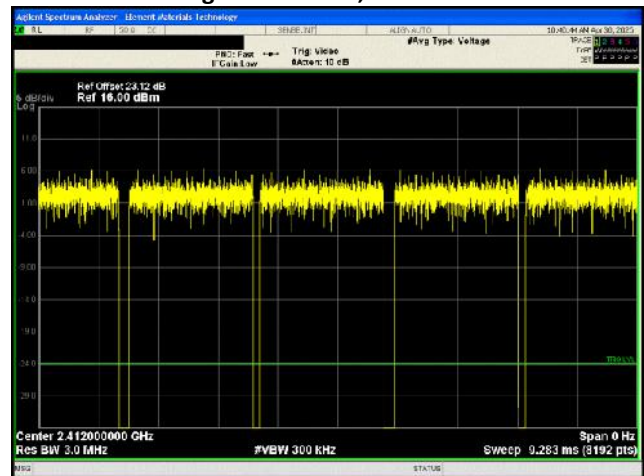
20 MHz BW
802.11(g) 54 Mbps
High Channel 11, 2462 MHz



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802.11(g) 54 Mbps
High Channel 11, 2462 MHz

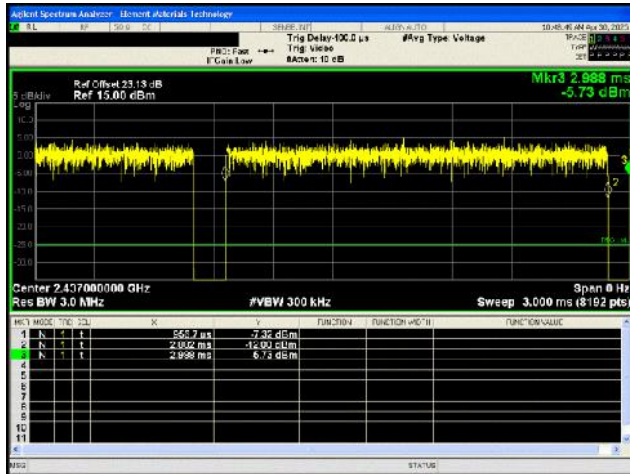


20 MHz BW
802.11(n) MCS0
Low Channel 1, 2412 MHz

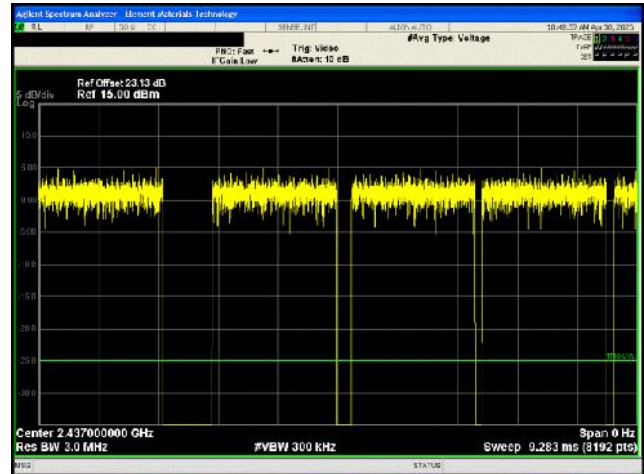


20 MHz BW
802.11(n) MCS0
Low Channel 1, 2412 MHz

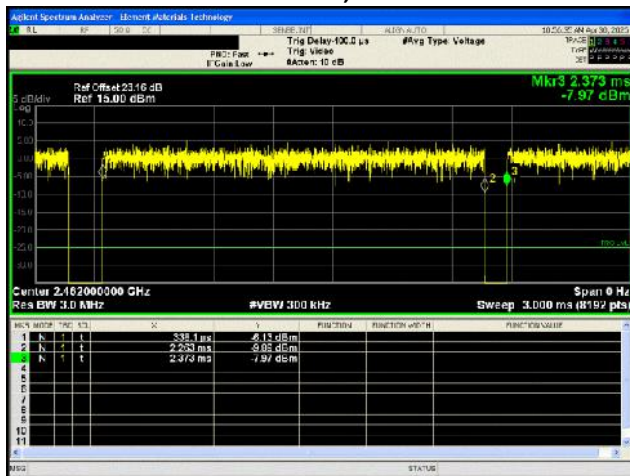
DUTY CYCLE



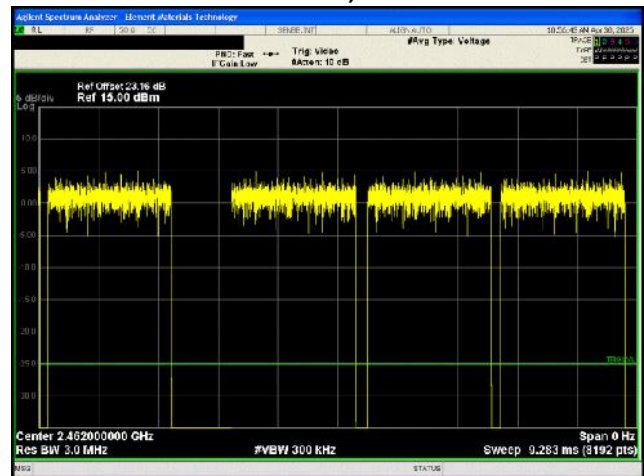
20 MHz BW
802.11(n) MCS0
Mid Channel 6, 2437 MHz



20 MHz BW
802.11(n) MCS0
Mid Channel 6, 2437 MHz

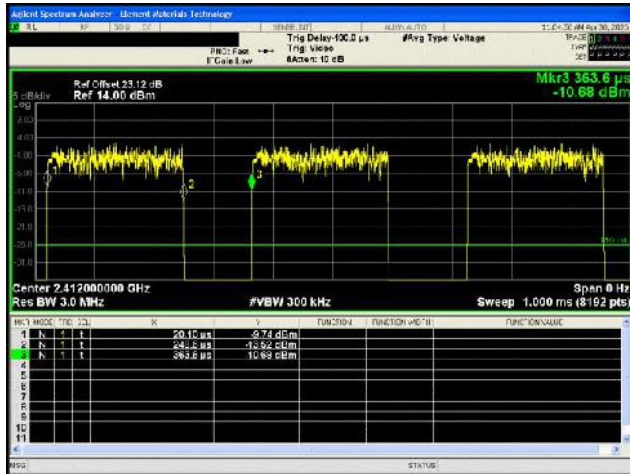


20 MHz BW
802.11(n) MCS0
High Channel 11, 2462 MHz

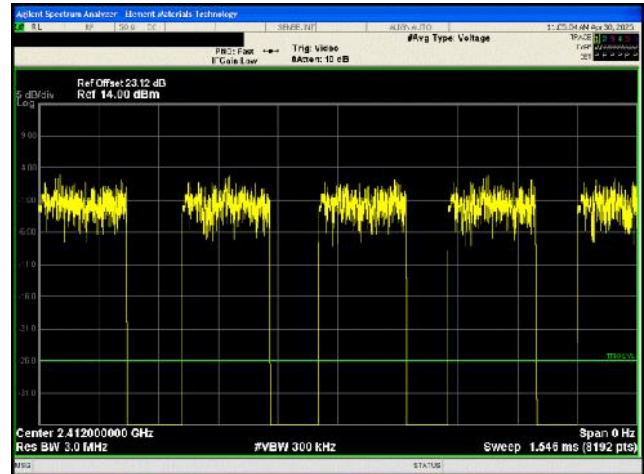


20 MHz BW
802.11(n) MCS0
High Channel 11, 2462 MHz

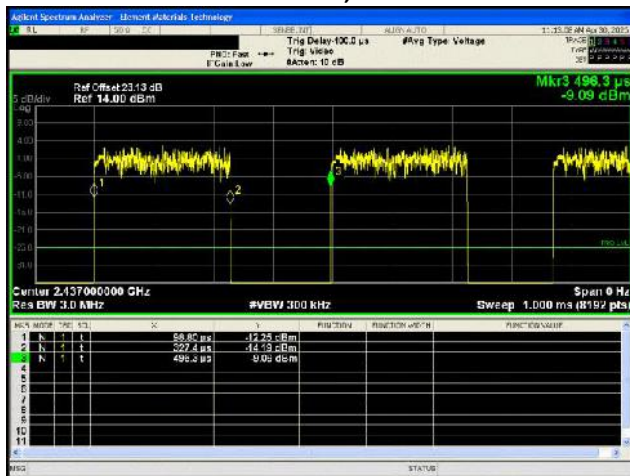
DUTY CYCLE



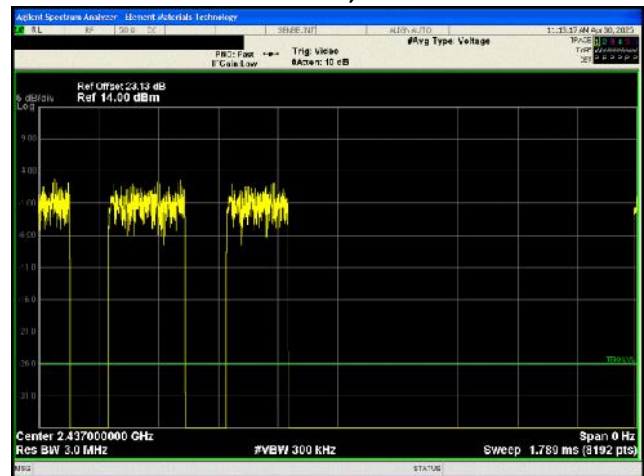
20 MHz BW
802.11(n) MCS7
Low Channel 1, 2412 MHz



20 MHz BW
802.11(n) MCS7
Low Channel 1, 2412 MHz

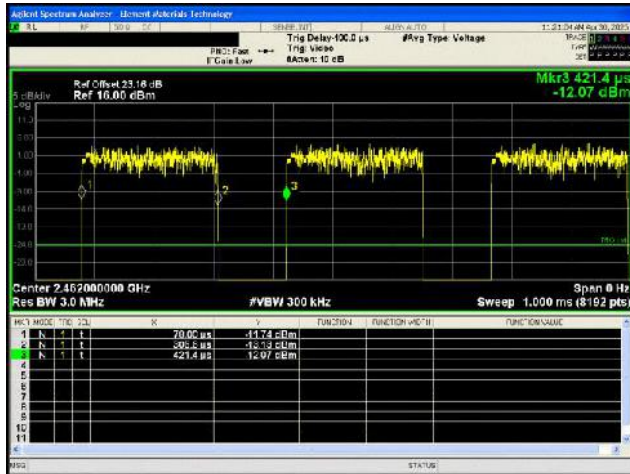


20 MHz BW
802.11(n) MCS7
Mid Channel 6, 2437 MHz

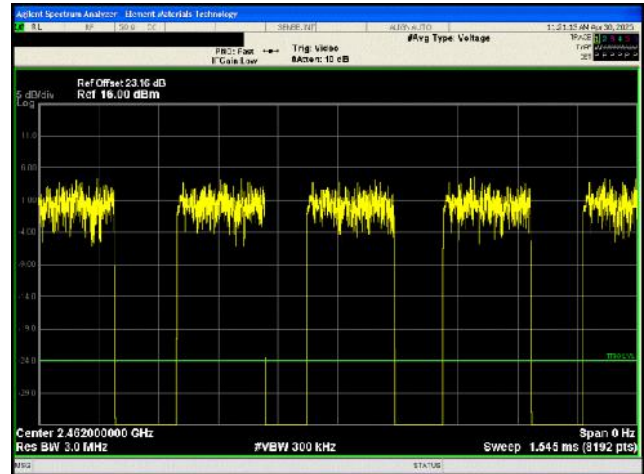


20 MHz BW
802.11(n) MCS7
Mid Channel 6, 2437 MHz

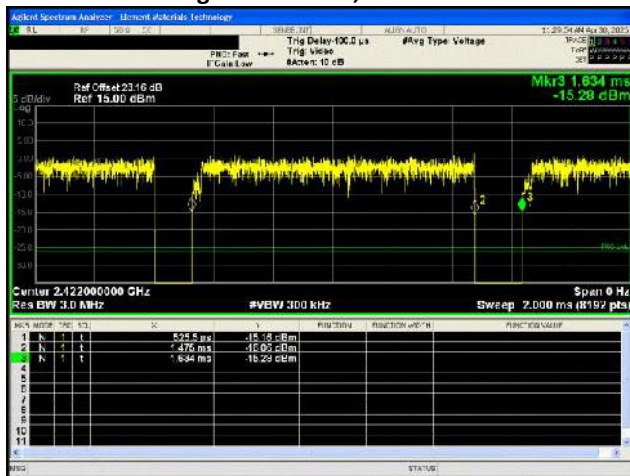
DUTY CYCLE



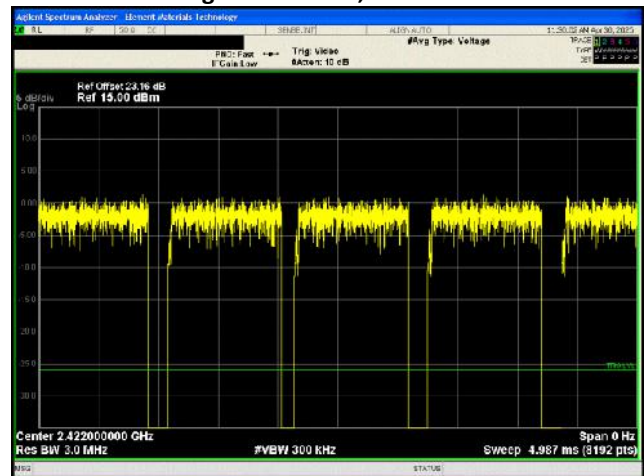
20 MHz BW
802.11(n) MCS7
High Channel 11, 2462 MHz



20 MHz BW
802.11(n) MCS7
High Channel 11, 2462 MHz

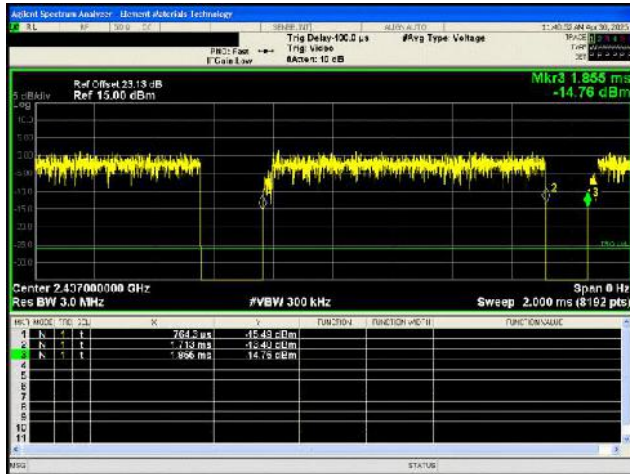


40 MHz BW
802.11(n) MCS0
Low Channel 1/5, 2422 MHz

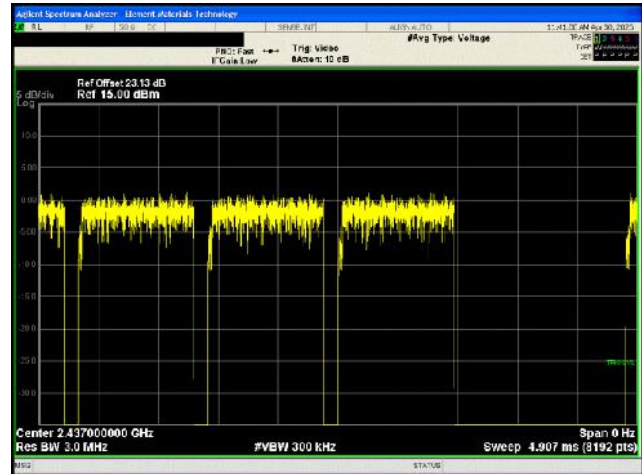


40 MHz BW
802.11(n) MCS0
Low Channel 1/5, 2422 MHz

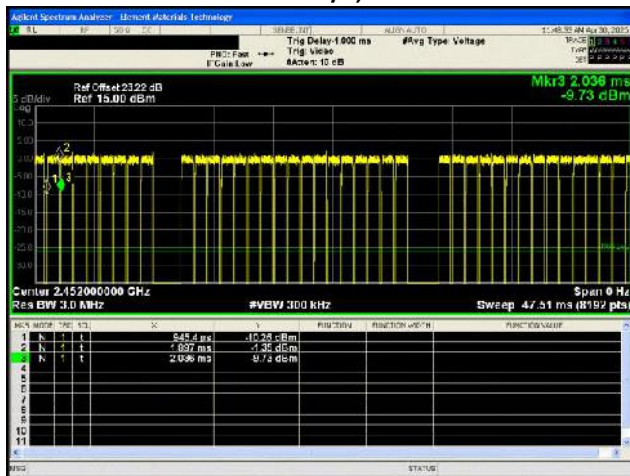
DUTY CYCLE



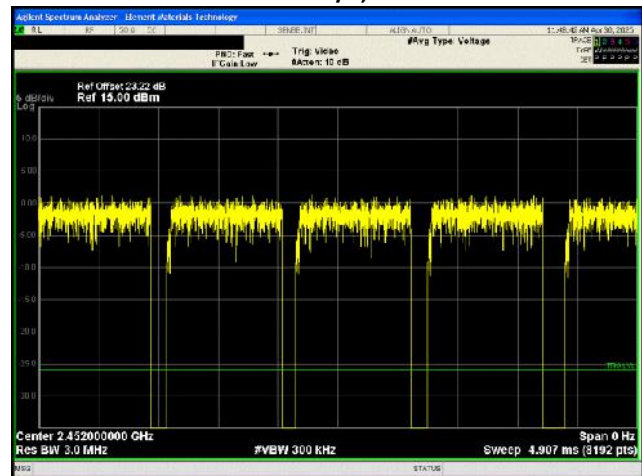
40 MHz BW
802.11(n) MCS0
Mid Channel 4/8, 2437 MHz



40 MHz BW
802.11(n) MCS0
Mid Channel 4/8, 2437 MHz

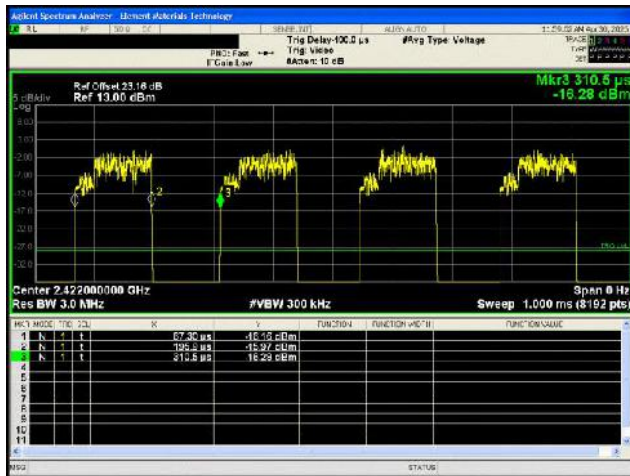


40 MHz BW
802.11(n) MCS0
High Channel 7/11, 2452 MHz



40 MHz BW
802.11(n) MCS0
High Channel 7/11, 2452 MHz

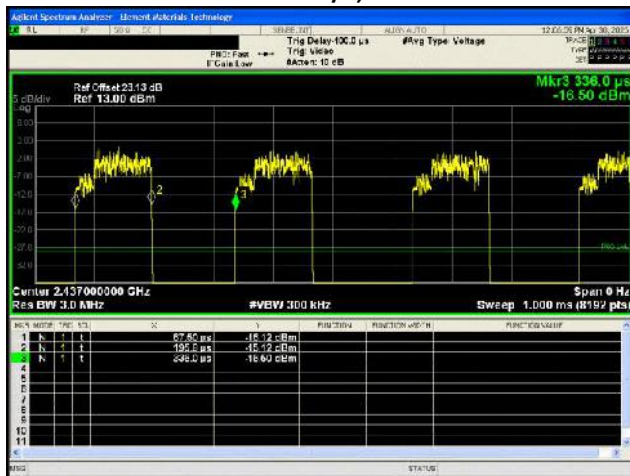
DUTY CYCLE



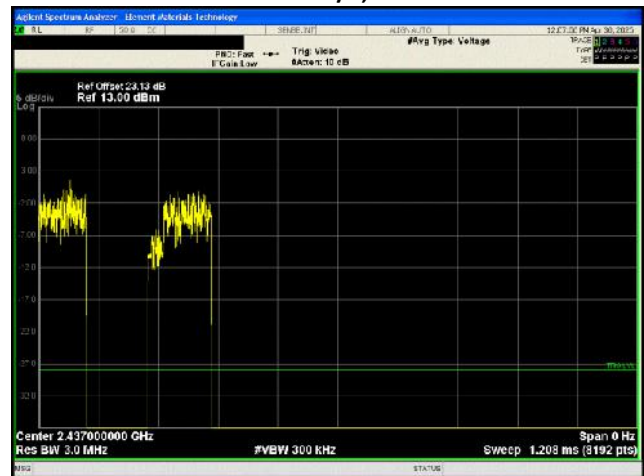
40 MHz BW
802.11(n) MCS7
Low Channel 1/5, 2422 MHz



40 MHz BW
802.11(n) MCS7
Low Channel 1/5, 2422 MHz

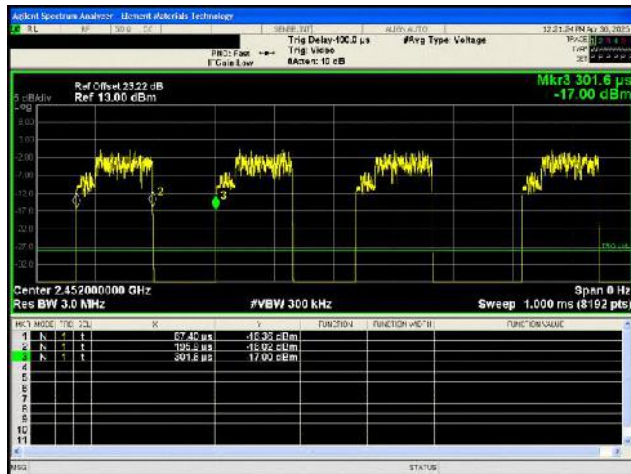


40 MHz BW
802.11(n) MCS7
Mid Channel 4/8, 2437 MHz

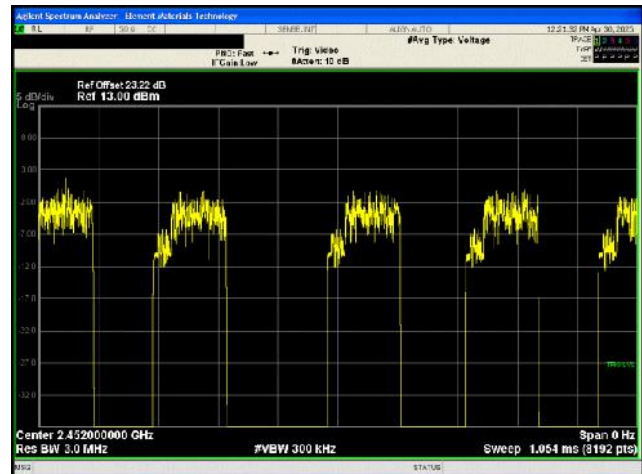


40 MHz BW
802.11(n) MCS7
Mid Channel 4/8, 2437 MHz

DUTY CYCLE



40 MHz BW
802.11(n) MCS7
High Channel 7/11, 2452 MHz



40 MHz BW
802.11(n) MCS7
High Channel 7/11, 2452 MHz