

3.4 Test Conditions and Results - Power spectral density

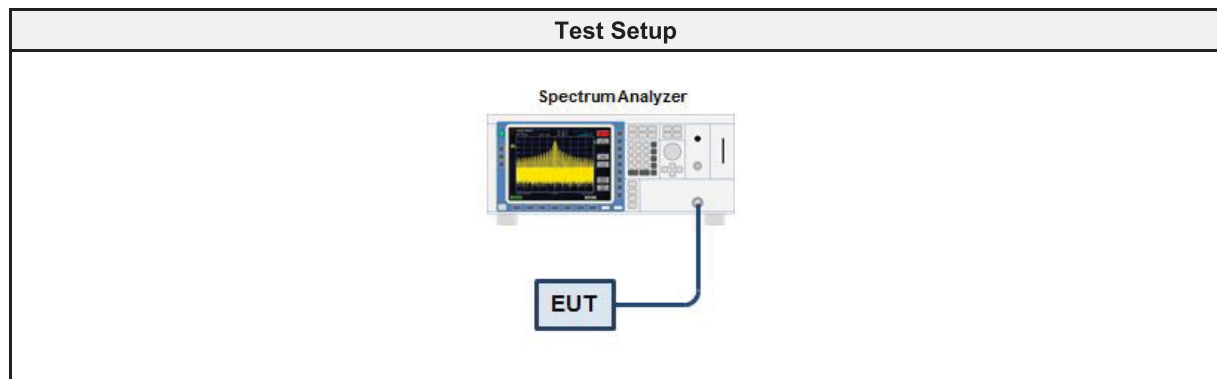
3.4.1 Information

Test Information	
Reference	FCC 15.407(a)
Measurement Method	KDB 789033 F
Operator	Wilfried Treffke
Date	2021-07-08
Measurement uncertainty	±2.86 %

3.4.2 Limits

Limits			
Frequency band	Condition	PSD limit	Maximum antenna gain ¹
5150 - 5250 MHz	Access point, indoor	17 dBm/MHz	6 dBi
5150 - 5250 MHz	Access point, outdoor	17 dBm/MHz	6 dBi
5150 - 5250 MHz	Access point, fixed point to point	17 dBm/MHz	23 dBi
5150 - 5250 MHz	Client	11 dBm/MHz	6 dBi
5250 - 5350 MHz	All devices	11 dBm/MHz	6 dBi
5470 - 5725 MHz	All devices	11 dBm/MHz	6 dBi
5725 - 5850 MHz	All devices	30 dBm/500 kHz	6 dBi
Note 1: The power density limit must be reduced by the amount in dB that the gain exceeds the maximum allowed gain			

3.4.3 Setup



3.4.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSU 26	EF01709	2021-02	2022-02
Cable	Gigalane	SMS111B	EF00779 CAAZ	2020-12	2021-12

3.4.5 Procedure

Test Procedure						
1.	EUT transmitter is activated in test mode under normal conditions					
2.	The spectrum analyzer is set to rms detection with a span over the emission bandwidth					
3.	The resolution bandwidth is set to 1 MHz / 500 kHz and video bandwidth to ≥ 3 MHz					
4.	The number of sweep points is set $\geq 2 \times \text{span} / \text{RBW}$ and the sweep time is set to auto					
5.	Trace averaging is set to 100					
6.	The maximum of the emission envelope is determined					
7.	The duty cycle ($10 \times \log_{10}(1/\text{duty cycle})$) correction is added to the measurement result					

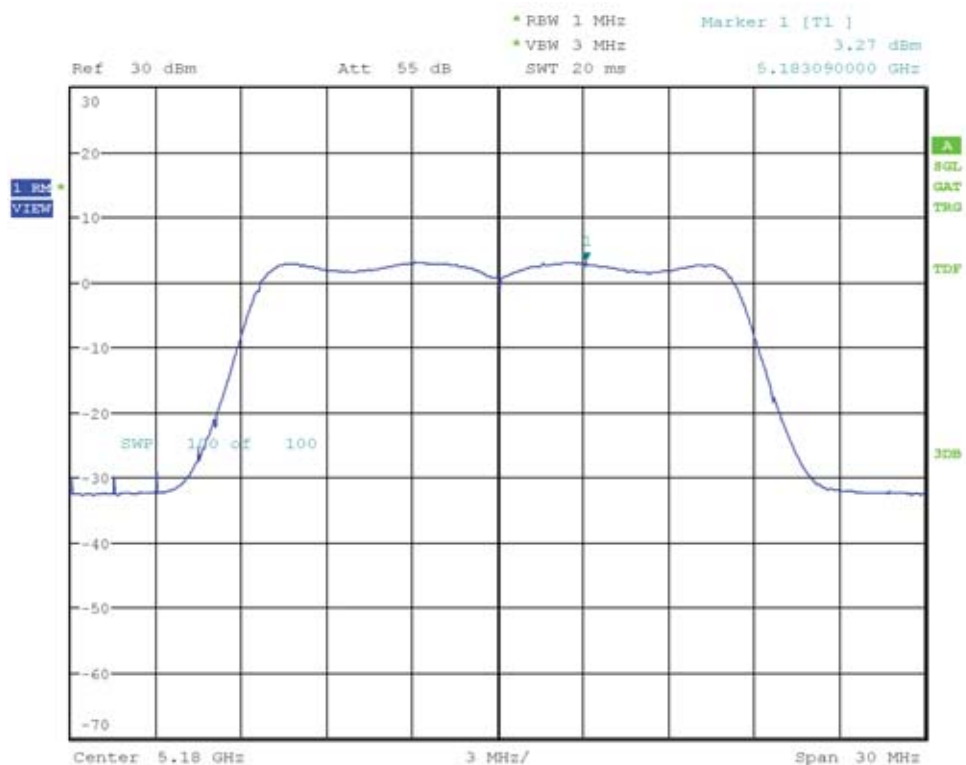
3.4.6 Results

Test Results - 5150 - 5250 MHz						
Mode	Channel	Frequency [MHz]	Nominal BW [MHz]	PSD [dBm/RBR]	Limit [dBm/MHz]	Verdict
OFDM	36	5180	20	3.269	11	PASS
OFDM	40	5200	20	3.133	11	PASS
OFDM	48	5240	20	3.362	11	PASS
HT20	36	5180	20	3.113	11	PASS
HT20	40	5200	20	2.884	11	PASS
HT20	48	5240	20	3.179	11	PASS
HT40	36+40	5190	40	0.973	11	PASS
HT40	44+48	5230	40	0.376	11	PASS
VHT20	36	5180	20	3.049	11	PASS
VHT20	40	5200	20	3.101	11	PASS
VHT20	48	5240	20	3.227	11	PASS
VHT40	36+40	5190	40	0.798	11	PASS
VHT40	44+48	5230	40	0.360	11	PASS
VHT80	36+40+44+48	5210	80	-3.911	11	PASS

Test Results - 5725 - 5850 MHz						
Mode	Channel	Frequency [MHz]	Nominal BW [MHz]	PSD [dBm/RBW]	Limit [dBm/RBW]	Verdict
OFDM	149	5745	20	-0.490	30	PASS
OFDM	157	5785	20	0.367	30	PASS
OFDM	165	5825	20	-1.007	30	PASS
HT20	149	5745	20	-0.529	30	PASS
HT20	157	5785	20	0.849	30	PASS
HT20	165	5825	20	-1.007	30	PASS
HT40	149+153	5755	40	-3.467	30	PASS
HT40	157+161	5795	40	-2.357	30	PASS
VHT20	149	5745	20	-0.498	30	PASS
VHT20	157	5785	20	0.144	30	PASS
VHT20	165	5825	20	-1.006	30	PASS
VHT40	149+153	5755	40	-3.472	30	PASS
VHT40	157+161	5795	40	-2.376	30	PASS
VHT80	149+153+157+161	5775	80	-6.645	30	PASS

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11a, Channel: 36, 5180 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5183.090
 Spectral Density [dBm/RBW]: 3.269
 Resolution Bandwidth [MHz]: 1



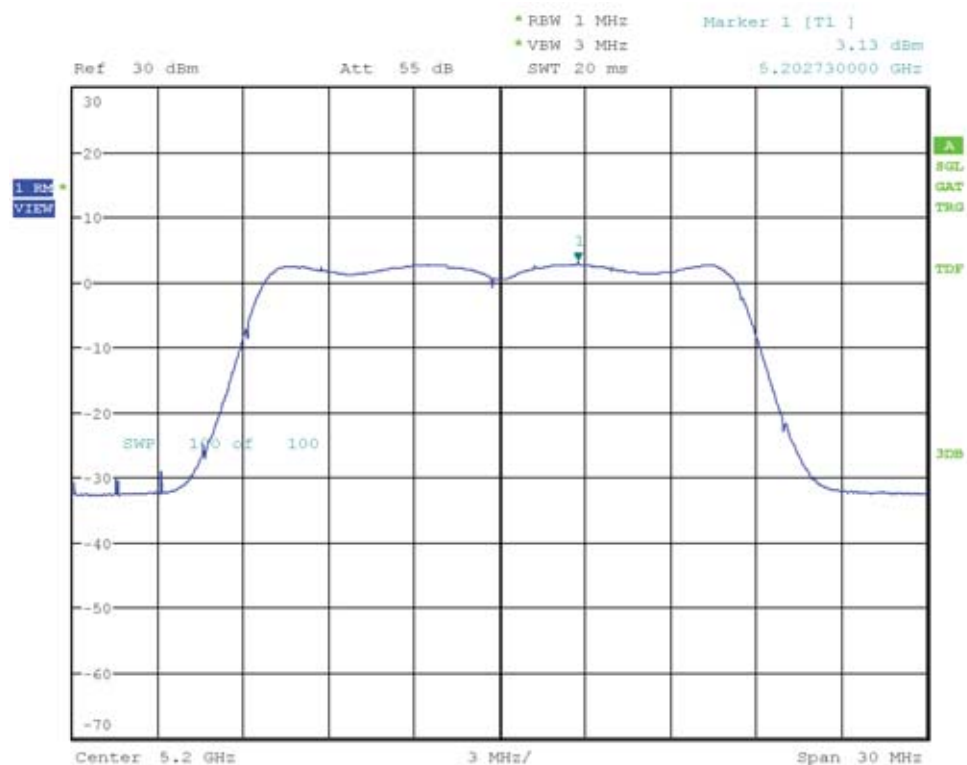
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11a, Channel: 40, 5200 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5202.730
Spectral Density [dBm/RBW]:	3.133
Resolution Bandwidth [MHz]:	1



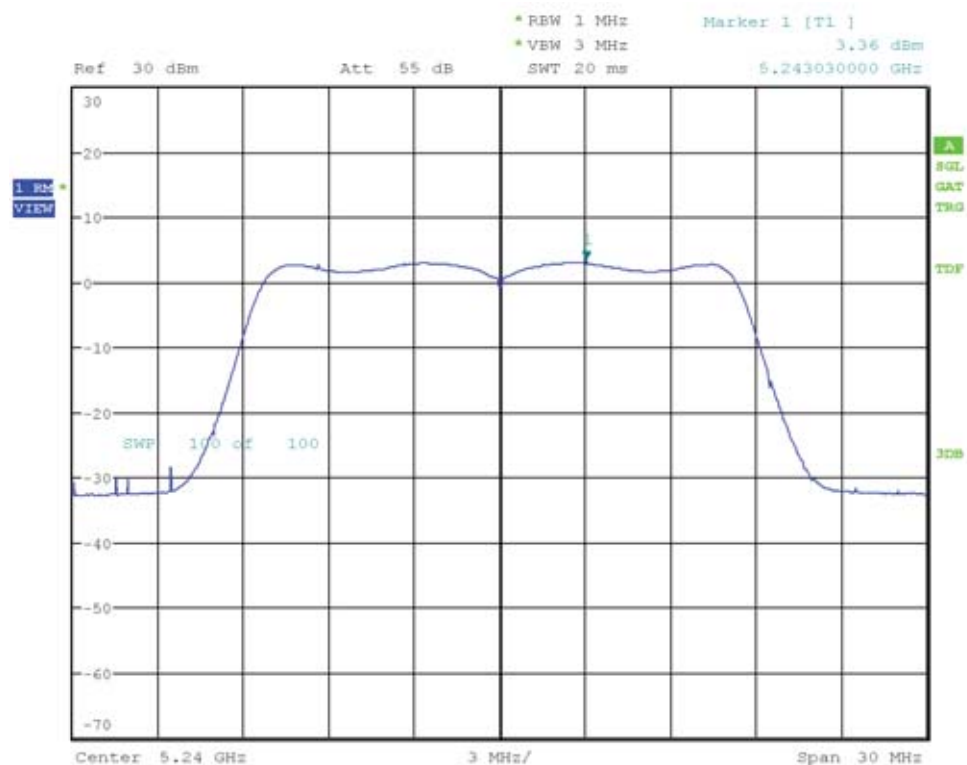
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11a, Channel: 48, 5240 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5243.030
Spectral Density [dBm/RBW]:	3.362
Resolution Bandwidth [MHz]:	1



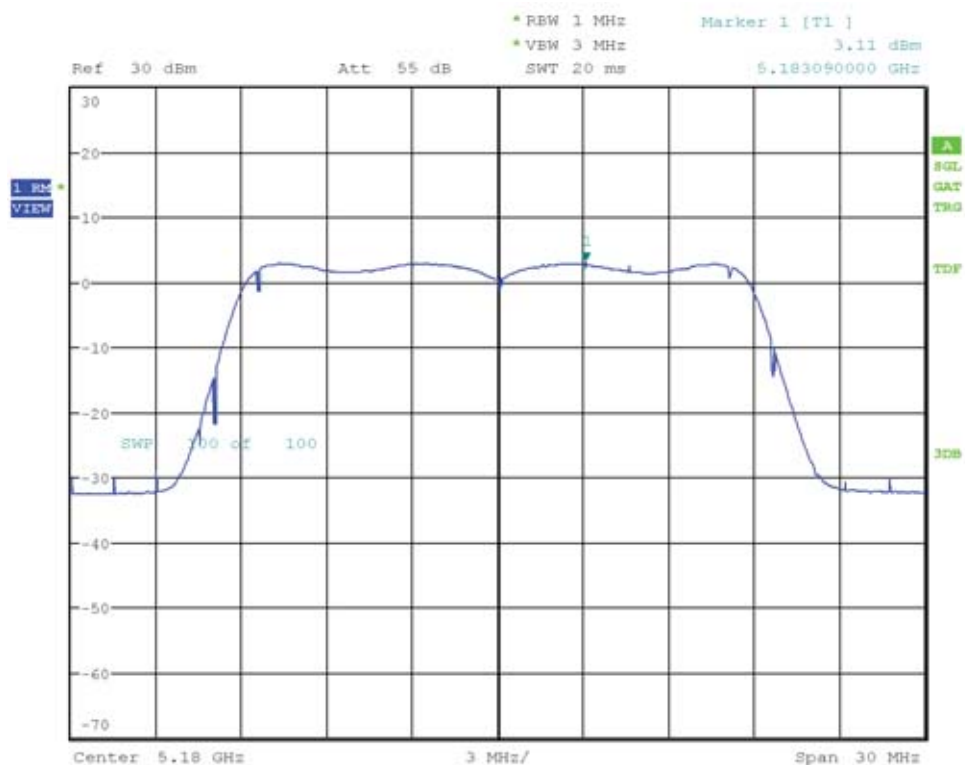
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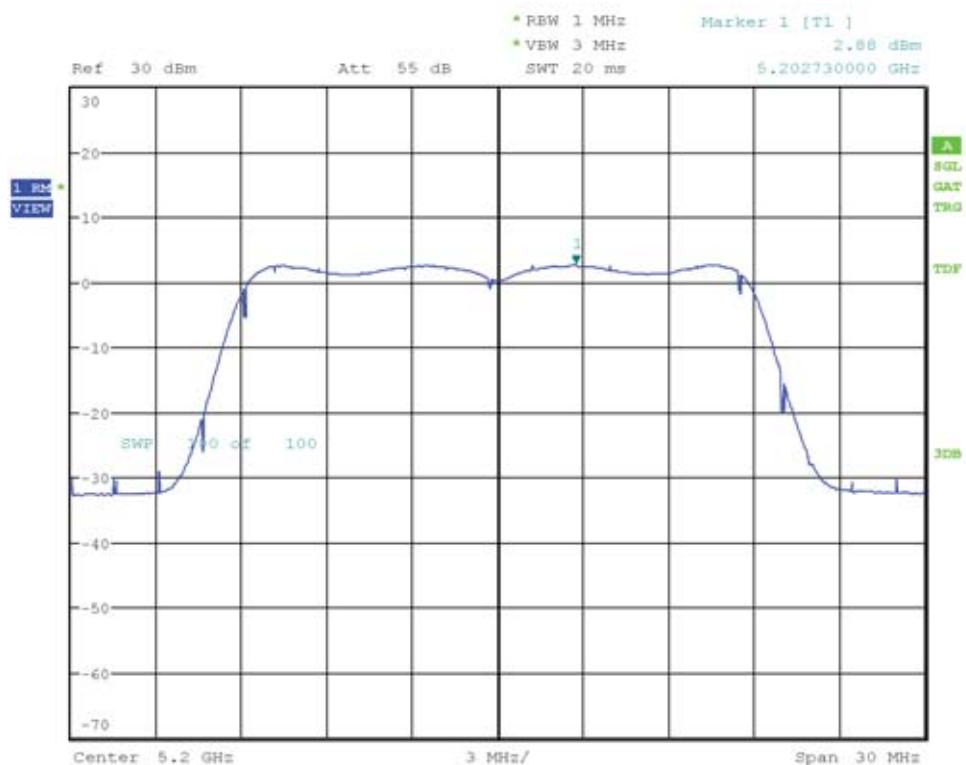
Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11n (HT20), Channel: 36, 5180 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5183.090
 Spectral Density [dBm/RBW]: 3.113
 Resolution Bandwidth [MHz]: 1



Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT20), Channel: 40, 5200 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5202.730
Spectral Density [dBm/RBW]:	2.884
Resolution Bandwidth [MHz]:	1



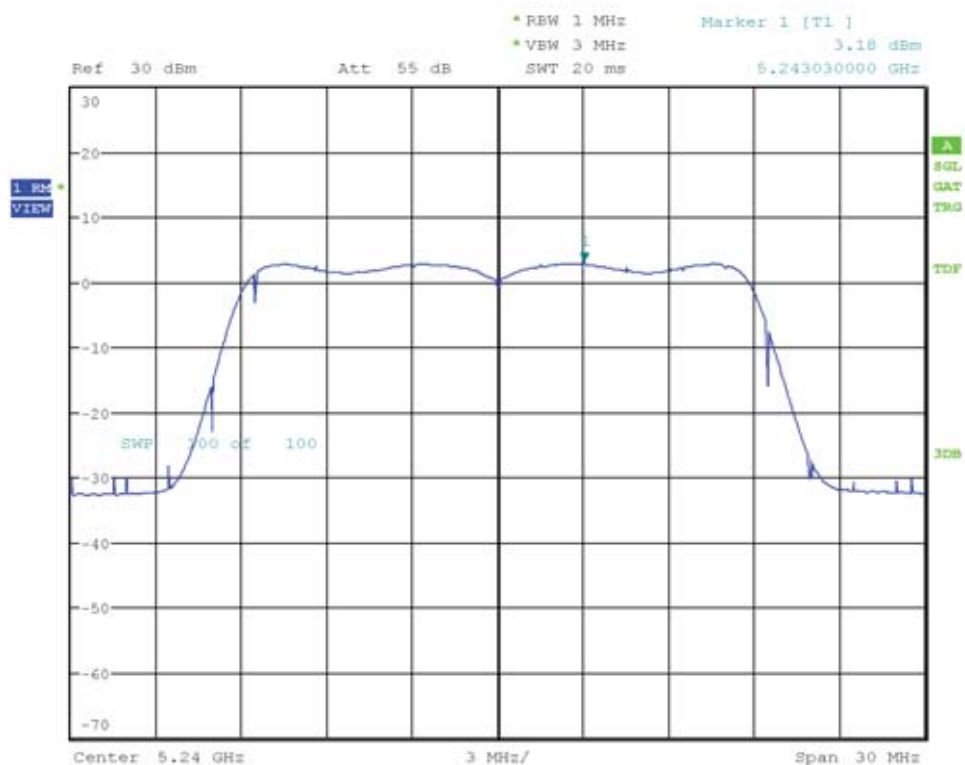
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT20), Channel: 48, 5240 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5243.030
Spectral Density [dBm/RBW]:	3.179
Resolution Bandwidth [MHz]:	1



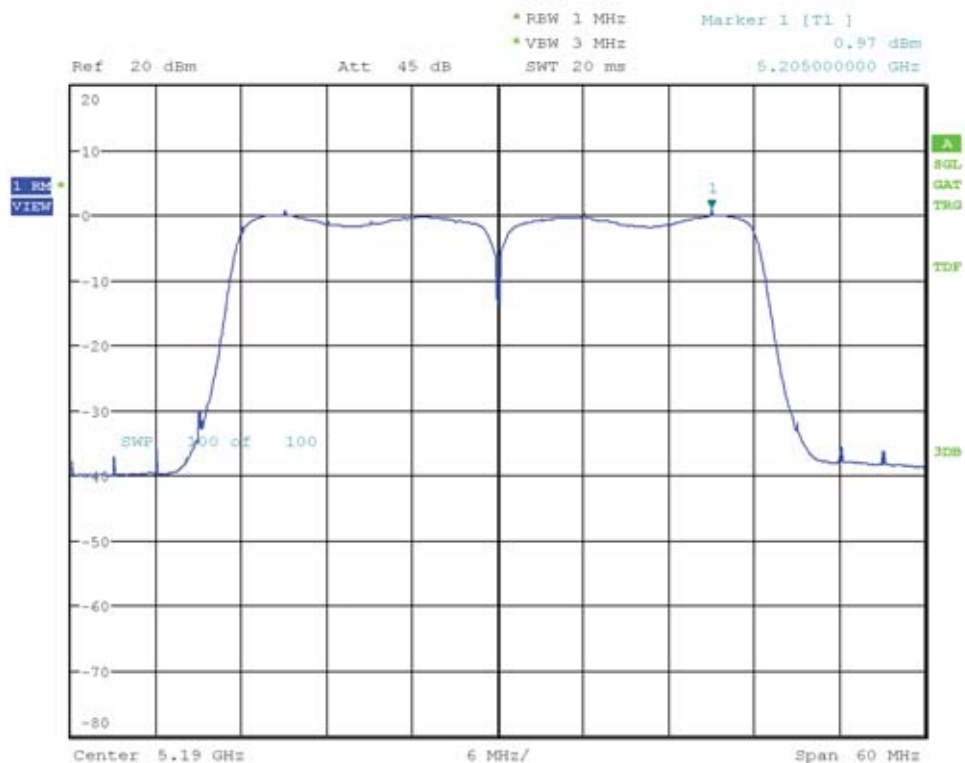
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Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT40), Channel: 38, 5190 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5205.000
Spectral Density [dBm/RBW]:	0.973
Resolution Bandwidth [MHz]:	1



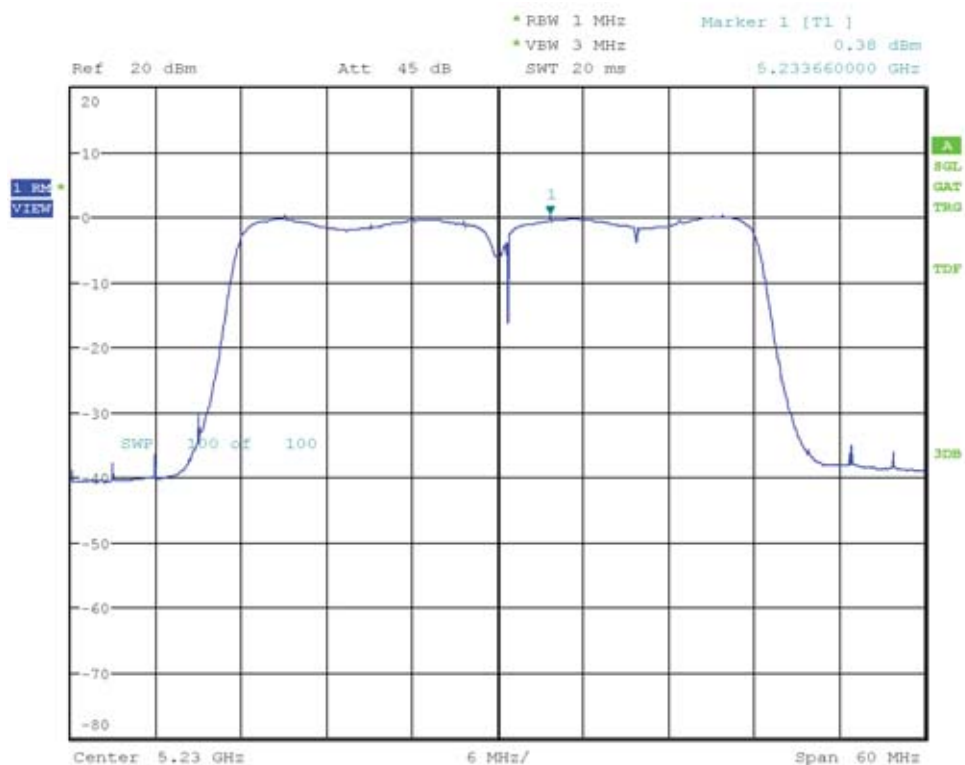
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Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11n (HT40), Channel: 46, 5230 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5233.660
 Spectral Density [dBm/RBW]: 0.376
 Resolution Bandwidth [MHz]: 1



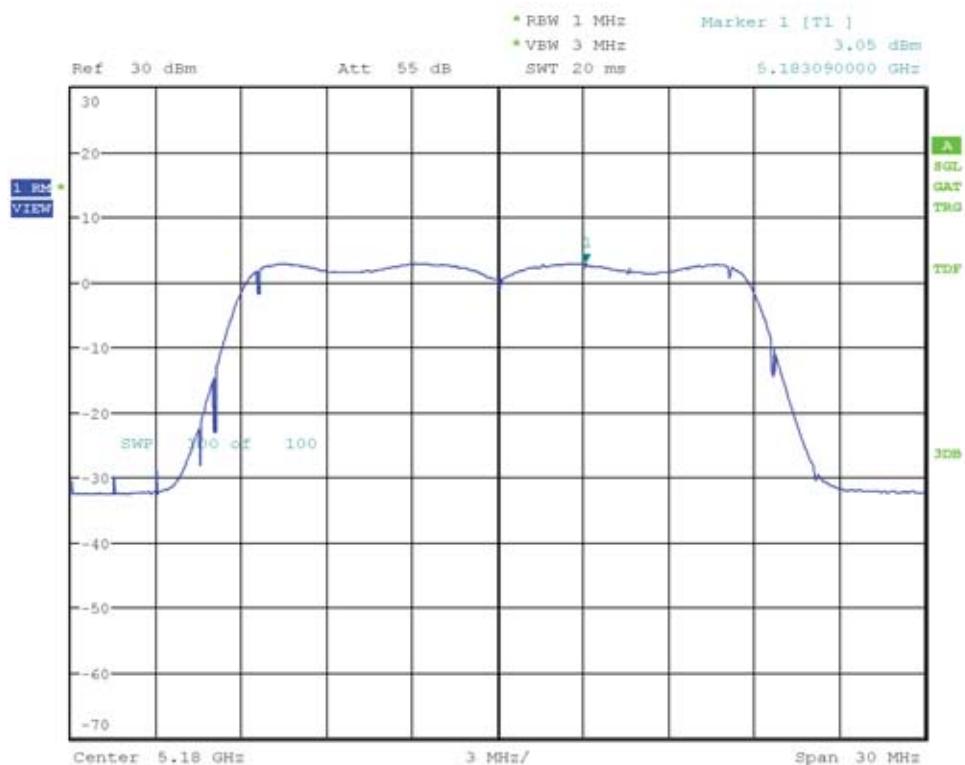
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Maximum Power Spectral Density

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Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11ac (VHT20), Channel: 36, 5180 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5183.090
Spectral Density [dBm/RBW]:	3.049
Resolution Bandwidth [MHz]:	1



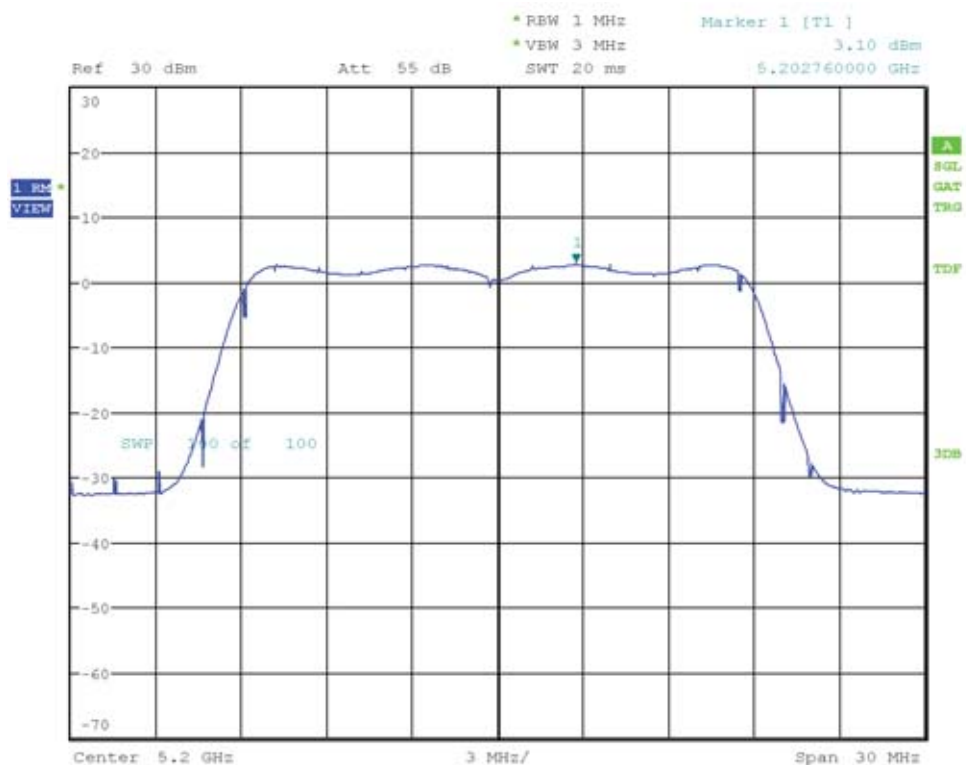
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

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Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11ac (VHT20), Channel: 40, 5200 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5202.760
Spectral Density [dBm/RBW]:	3.101
Resolution Bandwidth [MHz]:	1



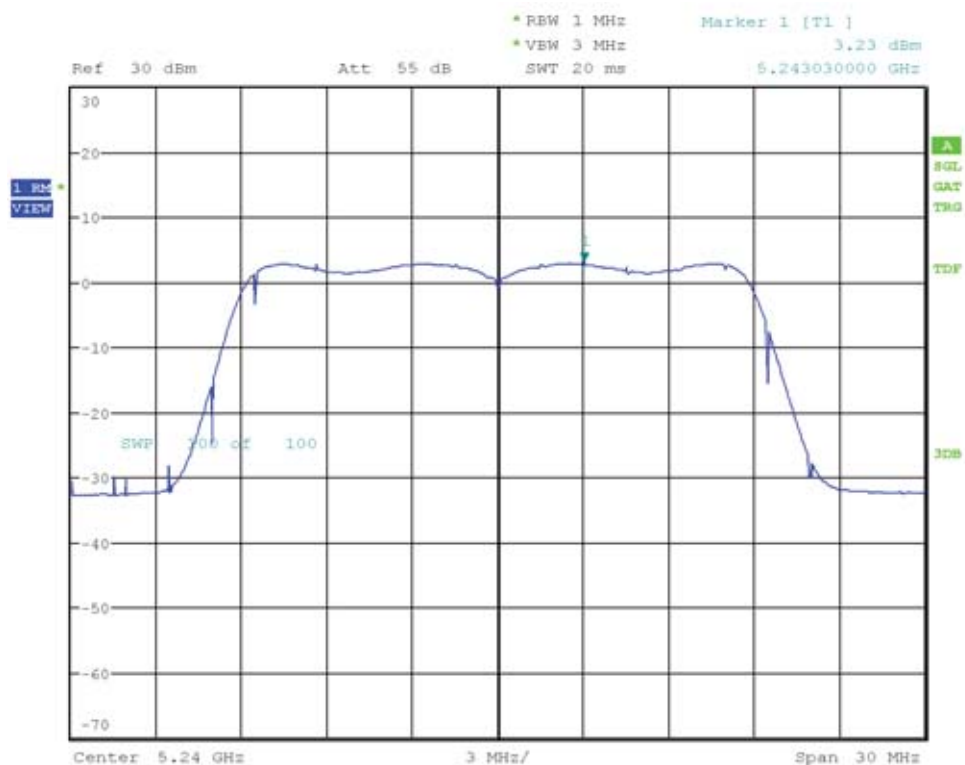
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Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11ac (VHT20), Channel: 48, 5240 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5243.030
Spectral Density [dBm/RBW]:	3.227
Resolution Bandwidth [MHz]:	1



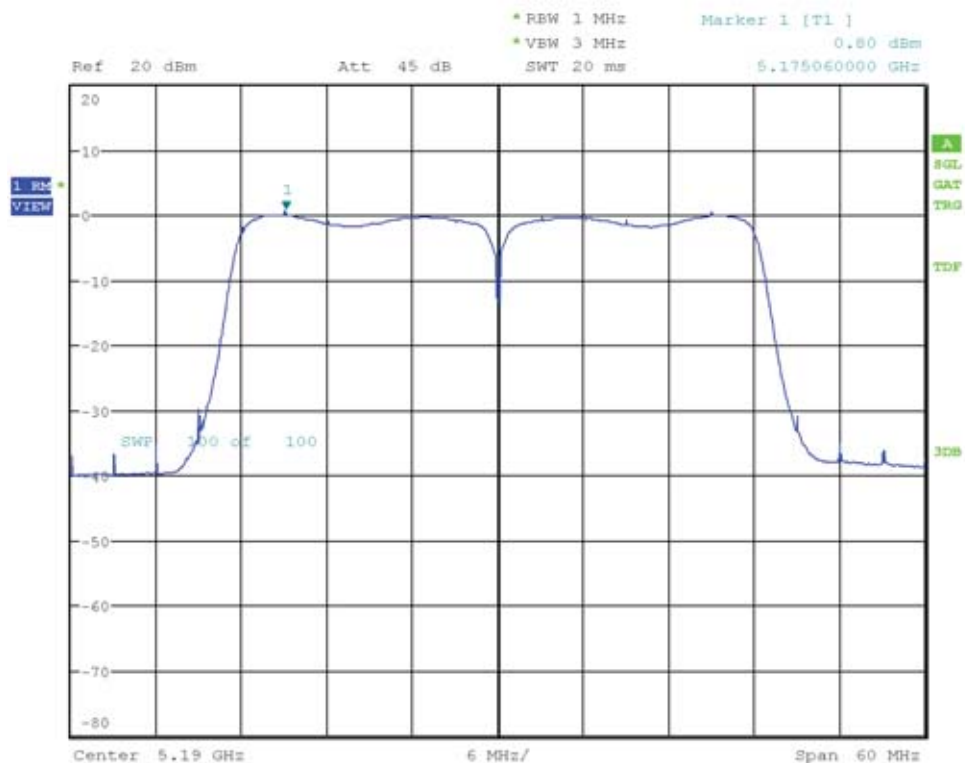
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Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11ac (VHT40), Channel: 38, 5190 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5175.060
Spectral Density [dBm/RBW]:	0.798
Resolution Bandwidth [MHz]:	1



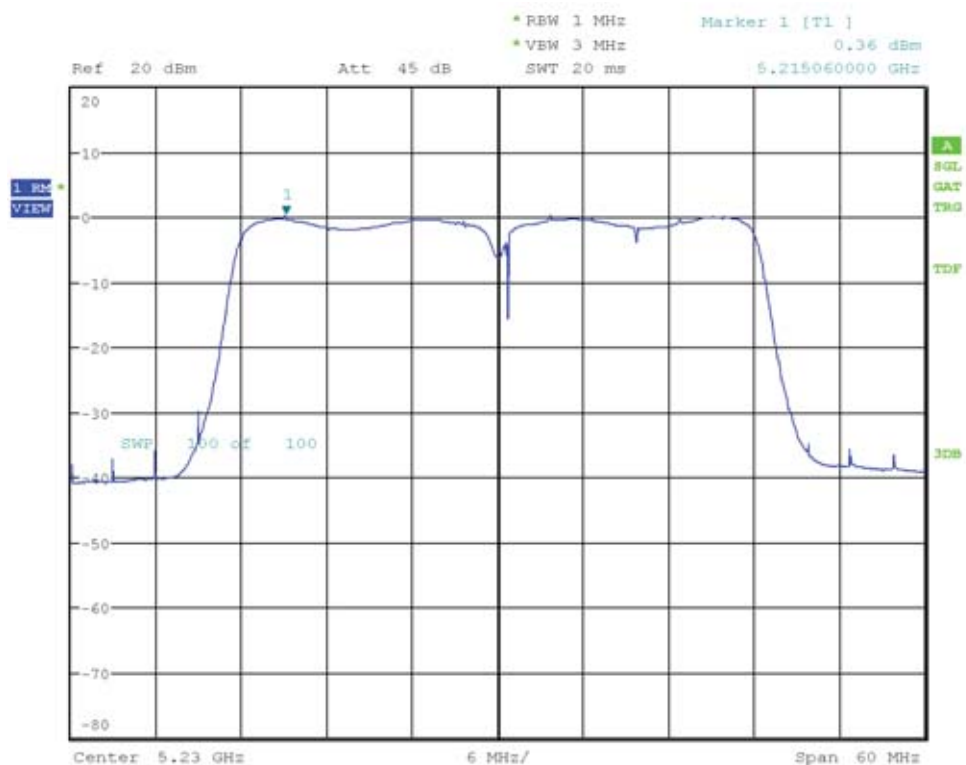
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11ac (VHT40), Channel: 46, 5230 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5215.060
 Spectral Density [dBm/RBW]: 0.360
 Resolution Bandwidth [MHz]: 1



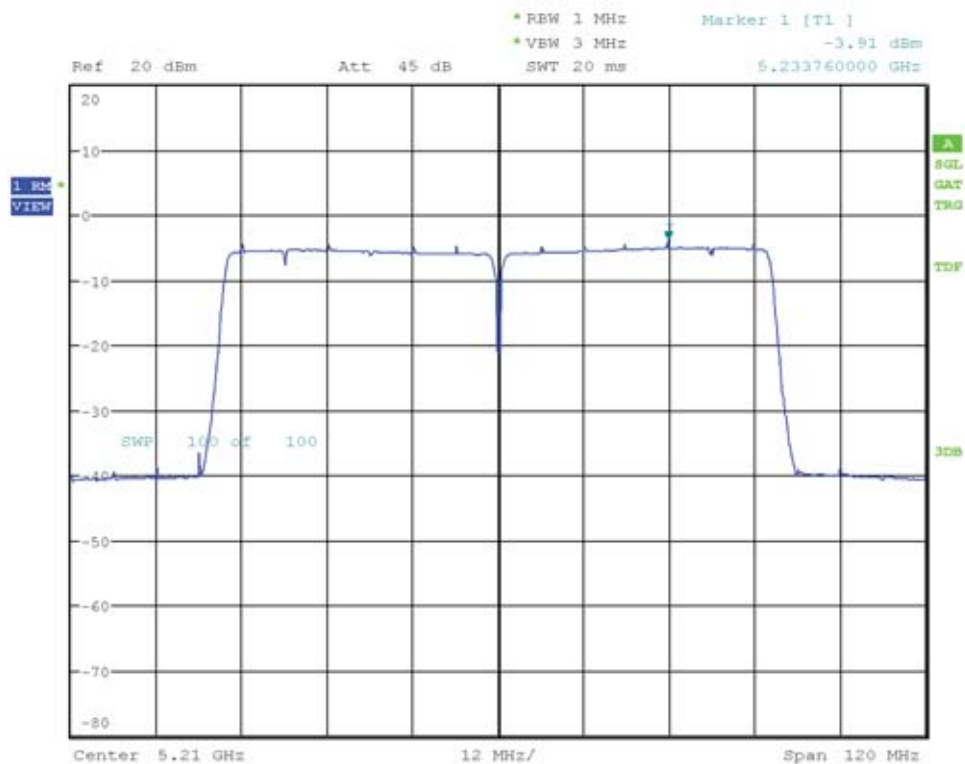
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11ac (VHT80), Channel: 42, 5210 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5233.760
 Spectral Density [dBm/RBW]: -3.911
 Resolution Bandwidth [MHz]: 1



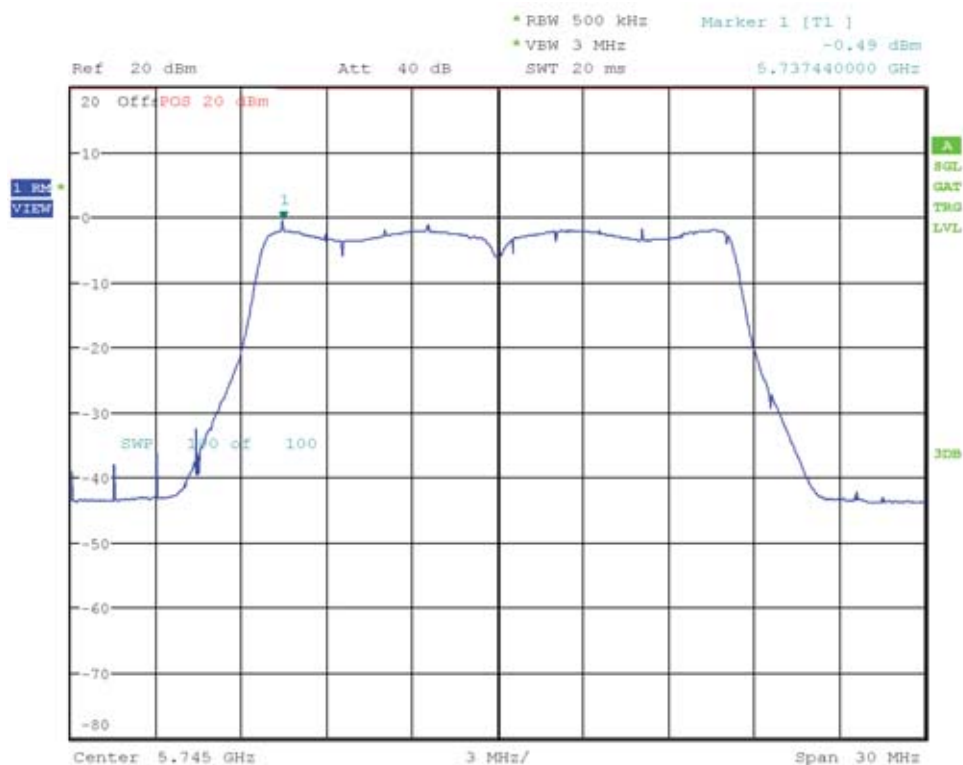
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Eurofins Product Service GmbH
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Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11a, Channel: 149, 5745 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5737.440
 Spectral Density [dBm/RBW]: -0.490
 Resolution Bandwidth [MHz]: 0.5



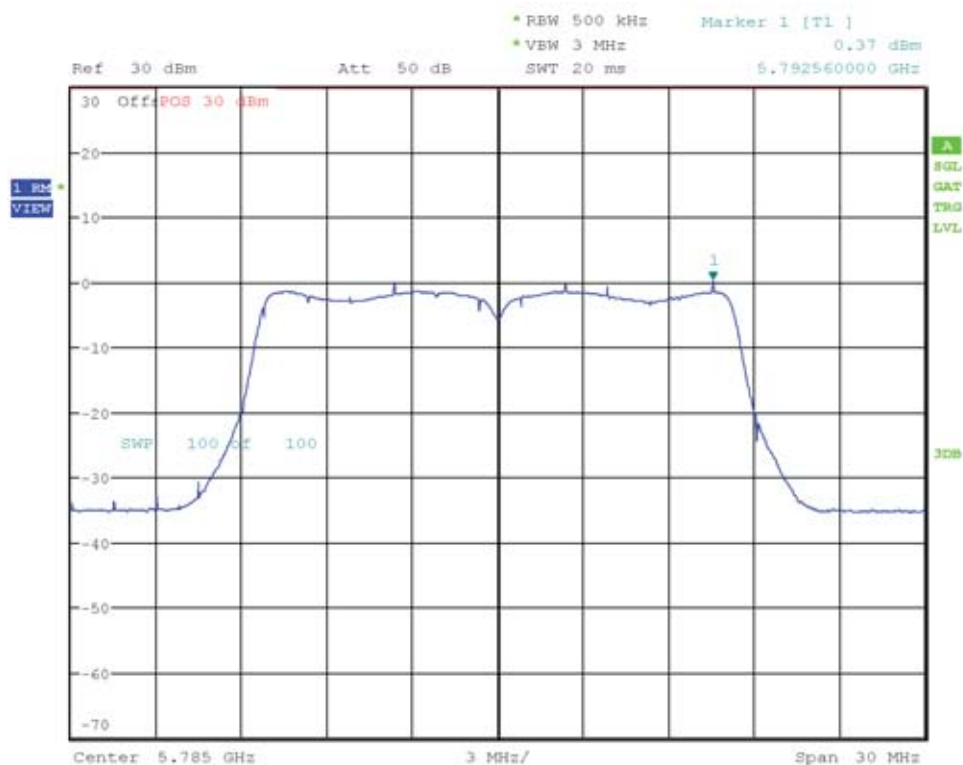
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11a, Channel: 157, 5785 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5792.560
Spectral Density [dBm/RBW]:	0.367
Resolution Bandwidth [MHz]:	0.5



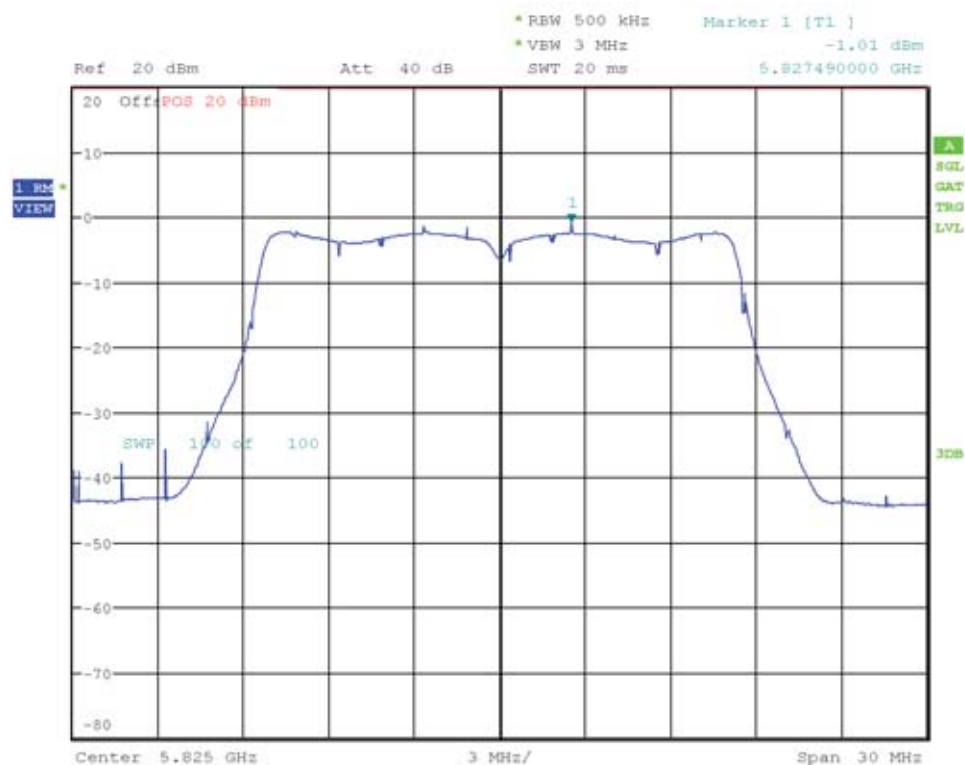
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

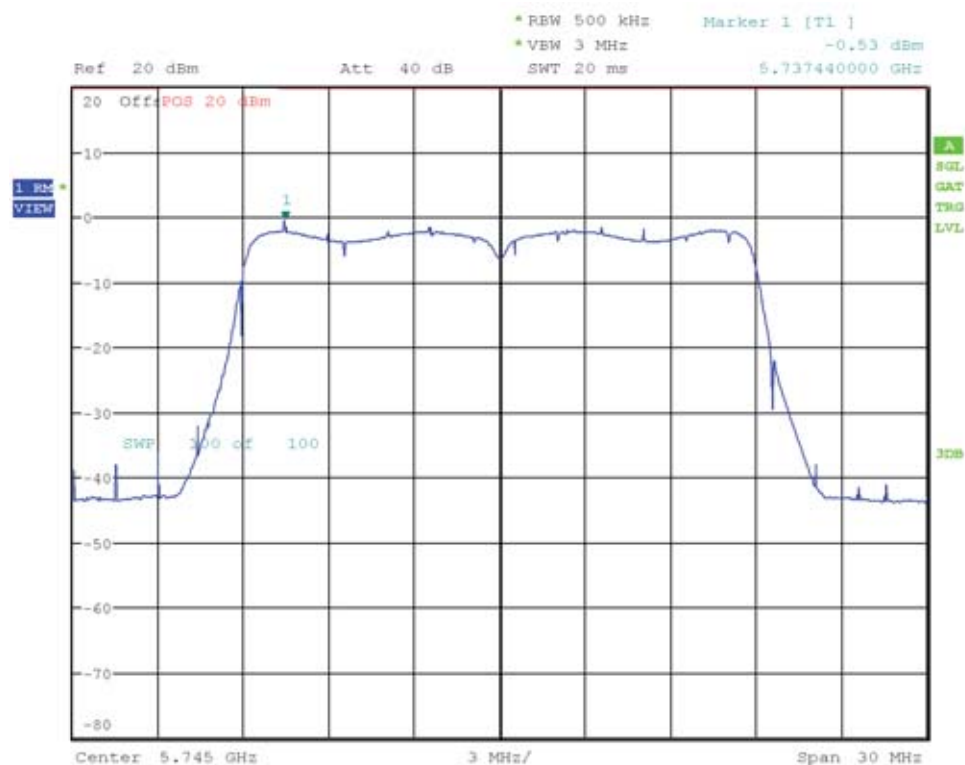
Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11a, Channel: 165, 5825 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5827.490
Spectral Density [dBm/RBW]:	-1.007
Resolution Bandwidth [MHz]:	0.5



Date: 8.JUL.2021 16:54:20

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT20), Channel: 149, 5745 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5737.440
Spectral Density [dBm/RBW]:	-0.529
Resolution Bandwidth [MHz]:	0.5



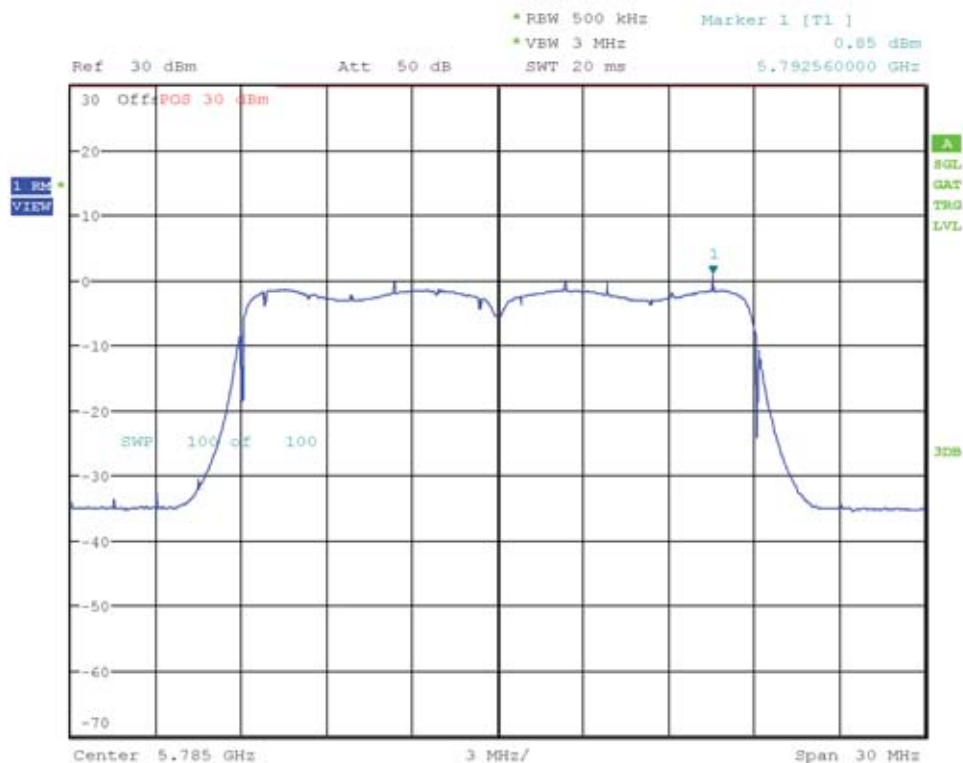
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT20), Channel: 157, 5785 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5792.560
Spectral Density [dBm/RBW]:	0.849
Resolution Bandwidth [MHz]:	0.5



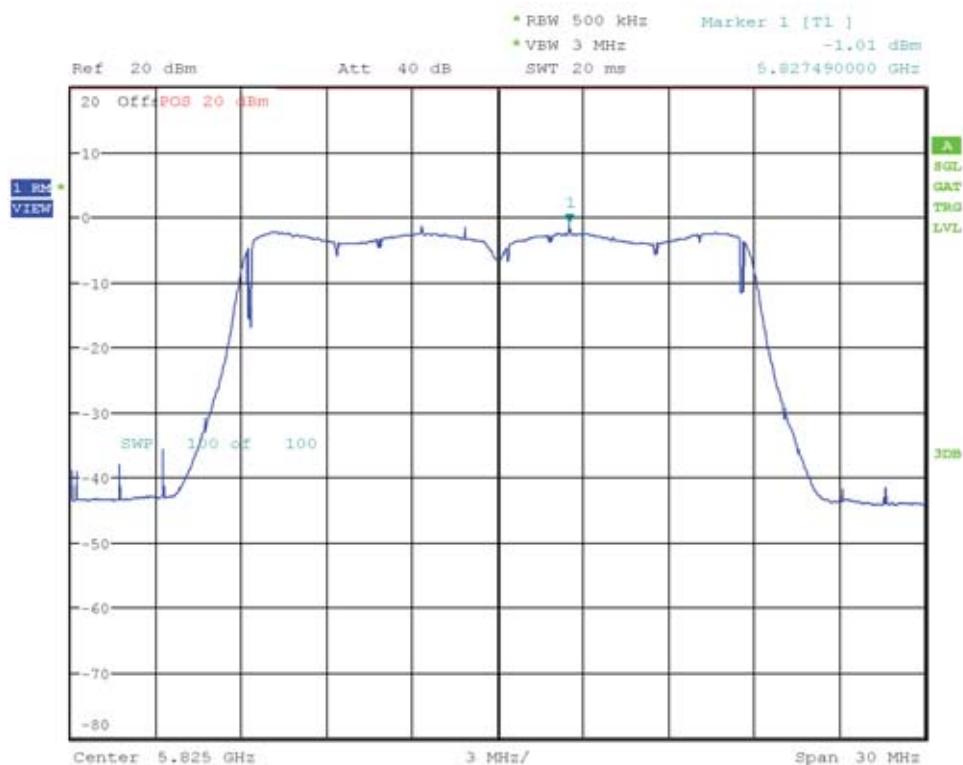
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

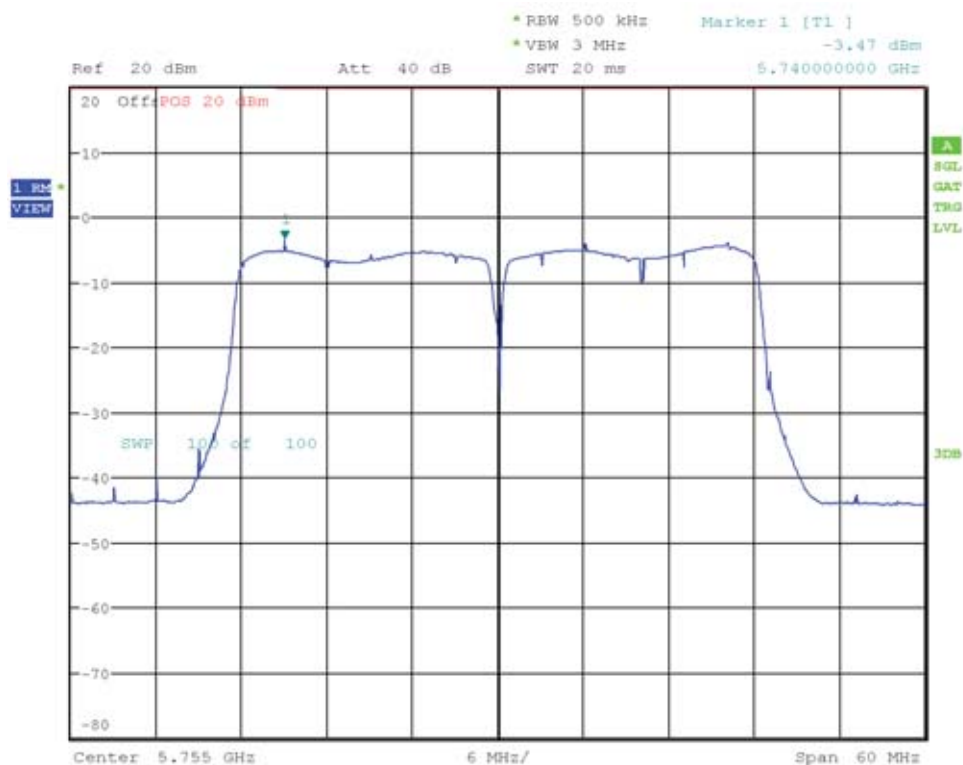
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Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT20), Channel: 165, 5825 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5827.490
Spectral Density [dBm/RBW]:	-1.007
Resolution Bandwidth [MHz]:	0.5



Date: 8.JUL.2021 19:11:16

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT40), Channel: 151, 5755 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5740.000
Spectral Density [dBm/RBW]:	-3.467
Resolution Bandwidth [MHz]:	0.5



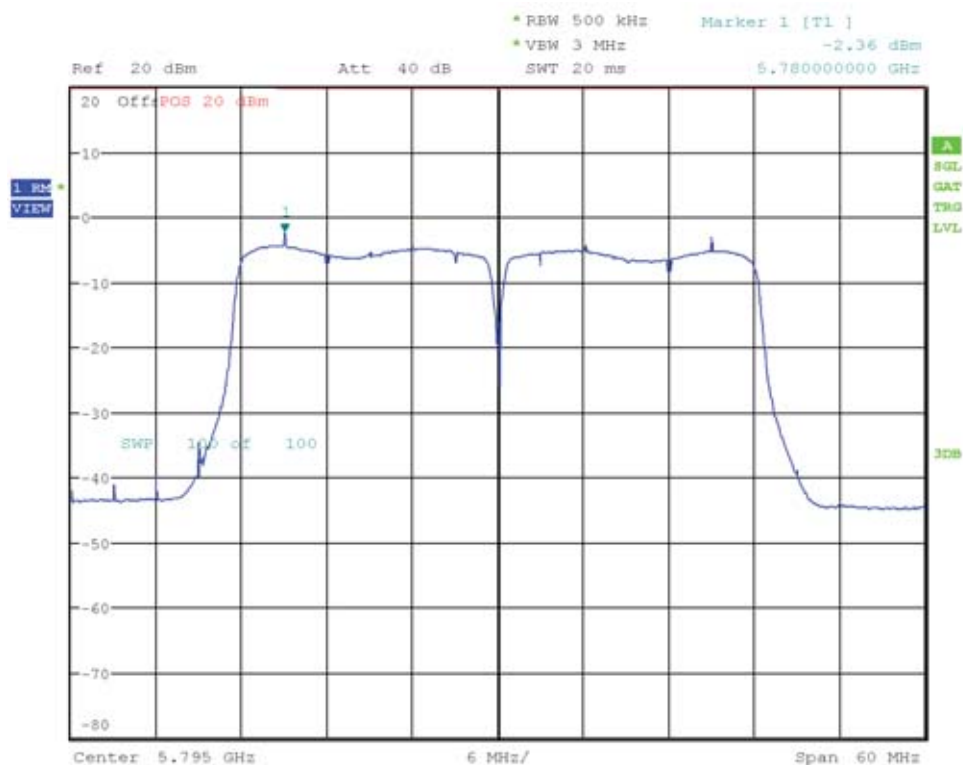
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11n (HT40), Channel: 159, 5795 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5780.000
Spectral Density [dBm/RBW]:	-2.357
Resolution Bandwidth [MHz]:	0.5



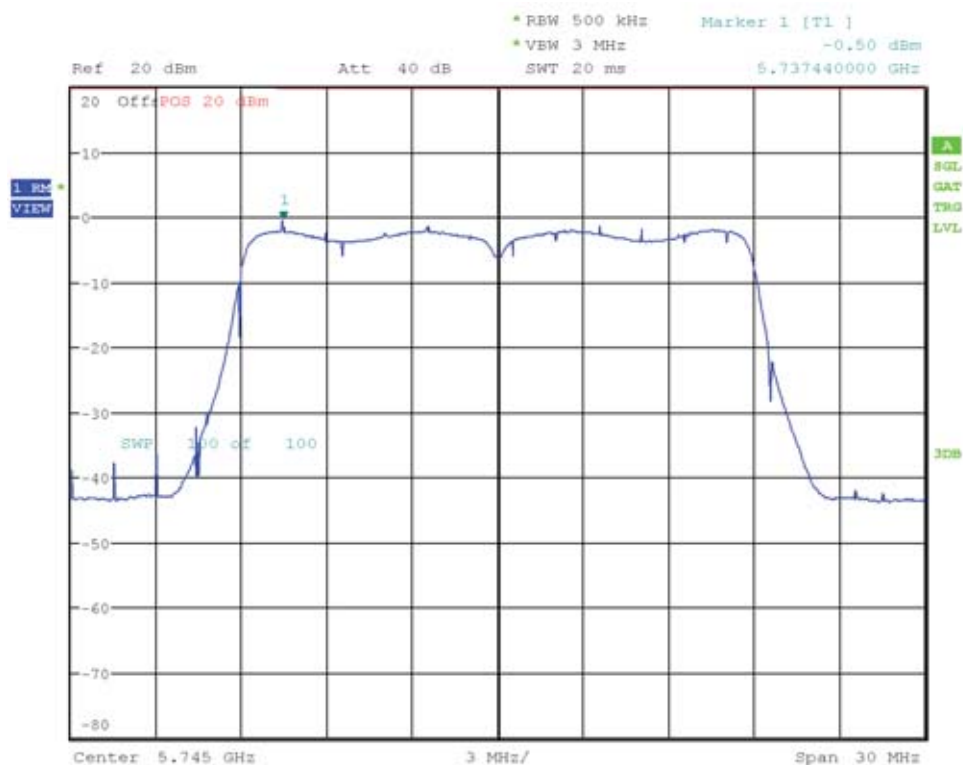
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11ac (VHT20), Channel: 149, 5745 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5737.440
 Spectral Density [dBm/RBW]: -0.498
 Resolution Bandwidth [MHz]: 0.5



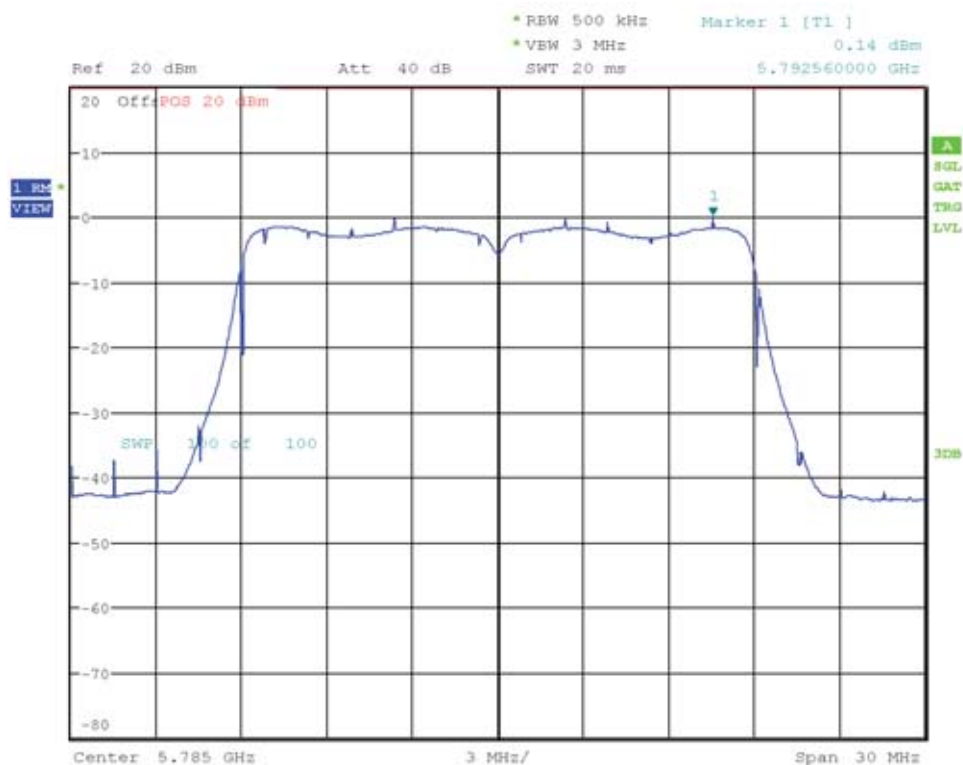
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11ac (VHT20), Channel: 157, 5785 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5792.560
 Spectral Density [dBm/RBW]: 0.144
 Resolution Bandwidth [MHz]: 0.5



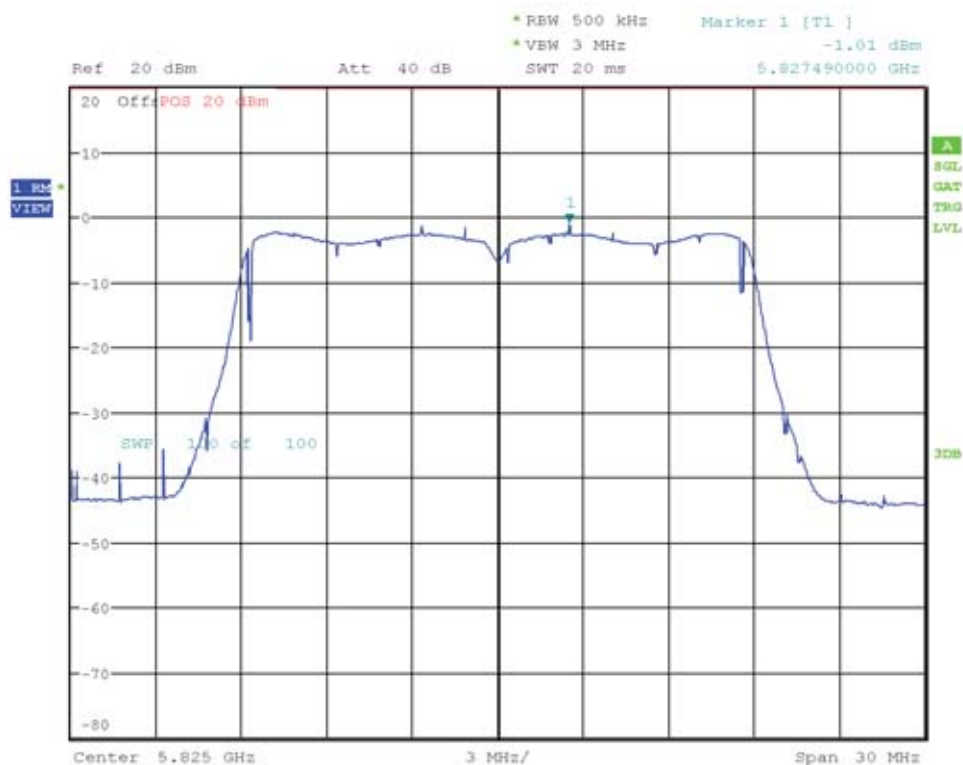
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11ac (VHT20), Channel: 165, 5825 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5827.490
Spectral Density [dBm/RBW]:	-1.006
Resolution Bandwidth [MHz]:	0.5



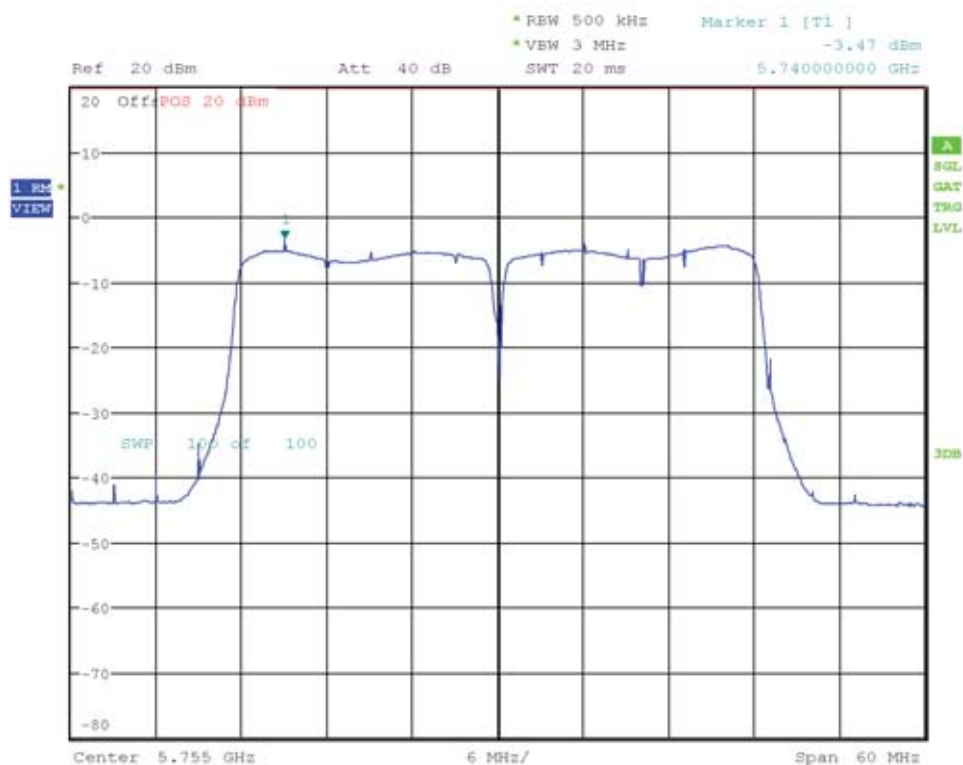
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11ac (VHT40), Channel: 151, 5755 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5740.000
 Spectral Density [dBm/RBW]: -3.472
 Resolution Bandwidth [MHz]: 0.5



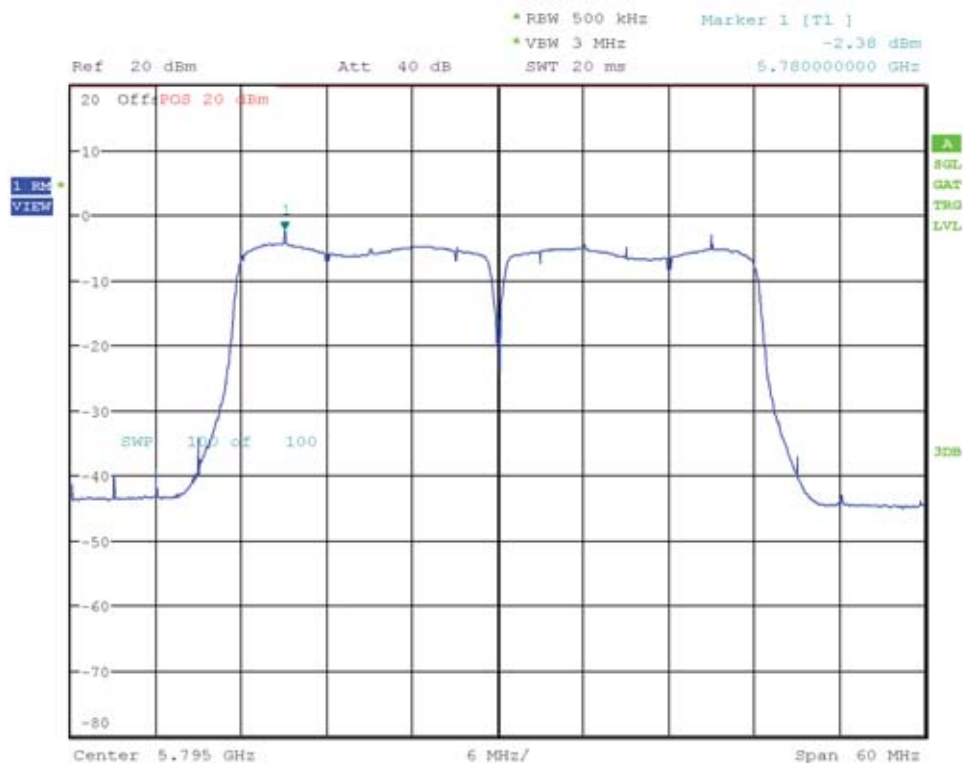
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number:	G0M-2101-9569
Applicant:	Panasonic Industrial Devices Europe GmbH
Model Description:	Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
Model:	ENWF9408A1EF
Test Sample ID:	34972, (A1 15 SMA)
Reference Standards:	FCC 15.407, RSS-247
Reference Method:	ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
Operational Mode:	IEEE 802.11ac (VHT40), Channel: 159, 5795 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Wilfried Treffke
Test Site:	Eurofins Product Service GmbH
Test Date:	2021-07-08
Number of Antenna Ports:	1
Antenna Port(s):	A
Maximum Frequency [MHz]:	5780.000
Spectral Density [dBm/RBW]:	-2.376
Resolution Bandwidth [MHz]:	0.5



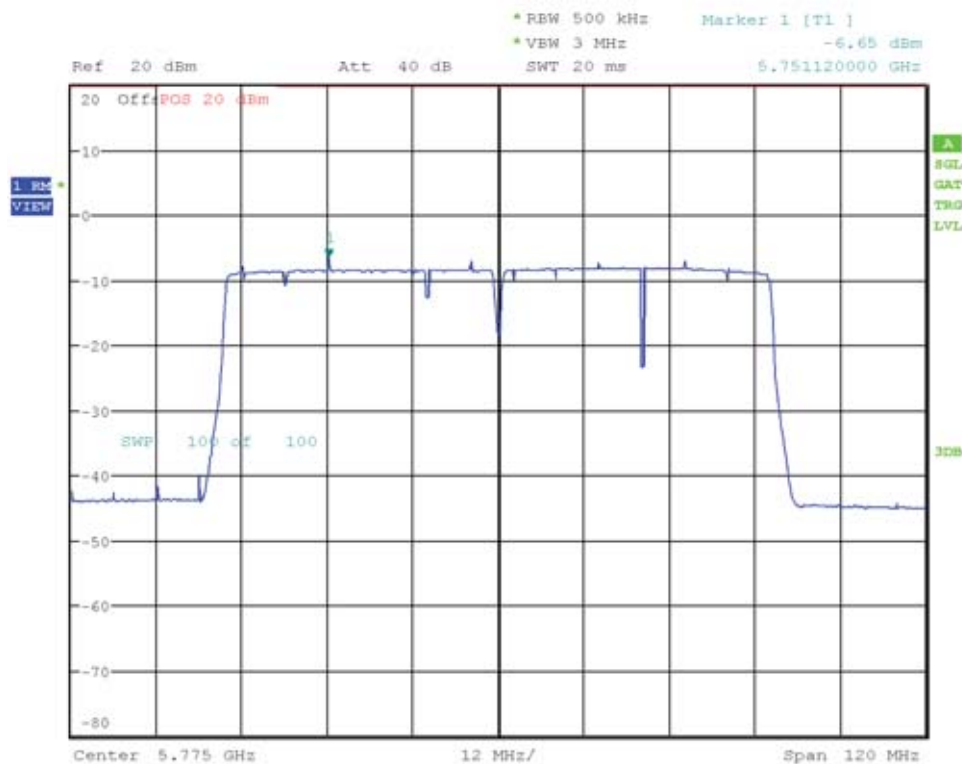
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Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Maximum Power Spectral Density

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34972, (A1 15 SMA)
 Reference Standards: FCC 15.407, RSS-247
 Reference Method: ANSI C63.10:2013, Section 12.5; KDB 789033 v02r02, Section F
 Operational Mode: IEEE 802.11ac (VHT80), Channel: 155, 5775 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Wilfried Treffke
 Test Site: Eurofins Product Service GmbH
 Test Date: 2021-07-08
 Number of Antenna Ports: 1
 Antenna Port(s): A
 Maximum Frequency [MHz]: 5751.120
 Spectral Density [dBm/RBW]: -6.645
 Resolution Bandwidth [MHz]: 0.5



Date: 8.JUL.2021 22:54:07

Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

3.5 Test Conditions and Results - Frequency stability

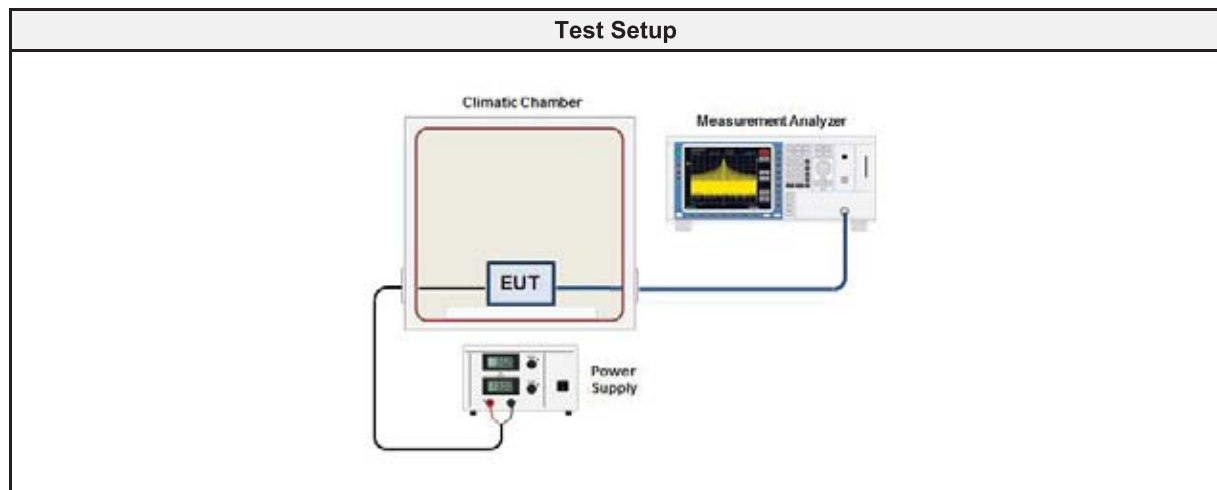
3.5.1 Information

Test Information	
Reference	FCC 15.407(g), KDB 789033 A.3
Measurement Method	ANSI C63.10 6.8
Operator	Wilfried Treffke
Date	2021-07-12
Measurement uncertainty	±0.06 ppm

3.5.2 Limits

Limits
Emission is maintained within the band of operation under all conditions of normal operation; The frequency deviation combined with the 26 dB bandwidth edges must be within the assigned frequency band

3.5.3 Setup



3.5.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSU 26	EF01709	2021-02	2022-02
Climatic chamber	Vötsch	VT 4010	EF00134	2021-06	2022-06
Cable	Gigalane	SMS111B	EF00779 CAAZ	2020-12	2021-12

3.5.5 Procedure

Test Procedure with respect to ambient temperature	
1.	The EUT is turned off and placed inside the temperature chamber
2.	The temperature chamber is set to the highest operating temperature
3.	The EUT is turned on at nominal supply voltage and the carrier frequency is measured at startup, at 2 minutes, 5 minutes and 10 minutes after EUT is energized
4.	The EUT is turned off again
5.	The temperature of the chamber is lowered by 10 °C
6.	The carrier frequency measurement is repeated after temperature has stabilized
7.	The procedure is repeated until the lowest operating temperature is reached

Test Procedure when varying supply voltage	
1.	The EUT is supplied with nominal supply voltage or a fully charged battery at room temperature (15 to 25 °C)
2.	The carrier frequency is measured
3.	The procedure is repeated at 85 % and 115 % of the nominal supply voltage or at the battery endpoint for battery operated equipment

Test Procedure of carrier frequency measurement	
1.	The emission spectrum is measured using a resolution band width of 100 kHz with peak detection and maximum hold
2.	The peak of the emission spectrum is determined
3.	The left most frequency f_1 10 dB below the peak emission is searched
4.	The right most frequency f_2 10 dB below the peak emission is searched
5.	The center frequency is calculated from $f_c = (f_1 + f_2) / 2$
6.	The center frequency and the deviation from the nominal center frequency are recorded

3.5.6 Results

Test Results - 5180 MHz - Variation of ambient temperature						
Channel	Nominal Frequency [MHz]	Voltage [V]	Temperature [°C]	Time after activation	Frequency [MHz]	Deviation [kHz]
36	5180	3.3	85	0	5179.991950	-8.050
36	5180	3.3	85	2	5179.992589	-7.411
36	5180	3.3	85	5	5179.992339	-7.661
36	5180	3.3	85	10	5179.992287	-7.713
36	5180	3.3	80	0	5179.992630	-7.370
36	5180	3.3	80	2	5179.997974	-2.026
36	5180	3.3	80	5	5179.998180	-1.820
36	5180	3.3	80	10	5179.994966	-5.034
36	5180	3.3	70	0	5179.997979	-2.021
36	5180	3.3	70	2	5180.001620	-1.620
36	5180	3.3	70	5	5179.995599	-4.401
36	5180	3.3	70	10	5179.991771	-8.229
36	5180	3.3	60	0	5179.998154	-1.846
36	5180	3.3	60	2	5179.999076	-0.924
36	5180	3.3	60	5	5179.999607	-0.393
36	5180	3.3	60	10	5179.992763	-7.237
36	5180	3.3	50	0	5179.997325	-2.675
36	5180	3.3	50	2	5179.994977	-5.023
36	5180	3.3	50	5	5179.995001	-4.999
36	5180	3.3	50	10	5179.994778	-5.222
36	5180	3.3	40	0	5179.997800	-2.200
36	5180	3.3	40	2	5179.993613	-6.387
36	5180	3.3	40	5	5180.000244	0.244
36	5180	3.3	40	10	5180.002225	2.225
36	5180	3.3	30	0	5179.998821	-1.179
36	5180	3.3	30	2	5179.994844	-5.156
36	5180	3.3	30	5	5179.990049	-9.951
36	5180	3.3	30	10	5179.996410	-3.590
36	5180	3.3	20	0	5180.002351	2.351
36	5180	3.3	20	2	5180.002351	2.351
36	5180	3.3	20	5	5179.997160	-2.840
36	5180	3.3	20	10	5179.996776	-3.224
36	5180	3.3	10	0	5180.007908	7.908
36	5180	3.3	10	2	5180.007910	7.910
36	5180	3.3	10	5	5180.007908	7.908
36	5180	3.3	10	10	5180.007912	7.912
36	5180	3.3	0	0	5180.007908	7.908
36	5180	3.3	0	2	5180.007908	7.908
36	5180	3.3	0	5	5180.007910	7.910
36	5180	3.3	0	10	5180.009203	9.203
36	5180	3.3	-10	0	5180.009203	9.203
36	5180	3.3	-10	2	5180.008735	8.735
36	5180	3.3	-10	5	5180.008289	8.289
36	5180	3.3	-10	10	5180.007404	7.404

Test Results - 5180 MHz - Variation of ambient temperature						
Channel	Nominal Frequency [MHz]	Voltage [V]	Temperature [°C]	Time after activation	Frequency [MHz]	Deviation [kHz]
36	5180	3.3	-20	0	5180.003342	3.342
36	5180	3.3	-20	2	5180.004092	4.092
36	5180	3.3	-20	5	5180.004286	4.286
36	5180	3.3	-20	10	5180.004153	4.153
36	5180	3.3	-30	0	5180.002167	2.167
36	5180	3.3	-30	2	5180.001557	1.557
36	5180	3.3	-30	5	5180.000184	0.184
36	5180	3.3	-30	10	5180.000886	0.886

Test Results - 5180 MHz - Variation of supply voltage					
Channel	Nominal Frequency [MHz]	Voltage [V]	Temperature [°C]	Frequency [MHz]	Deviation [kHz]
36	5180	3.0	20	5180.002310	02.31
36	5180	3.6	20	5180.002362	02.36

3.6 Test Conditions and Results - AC power line conducted emissions

3.6.1 Information

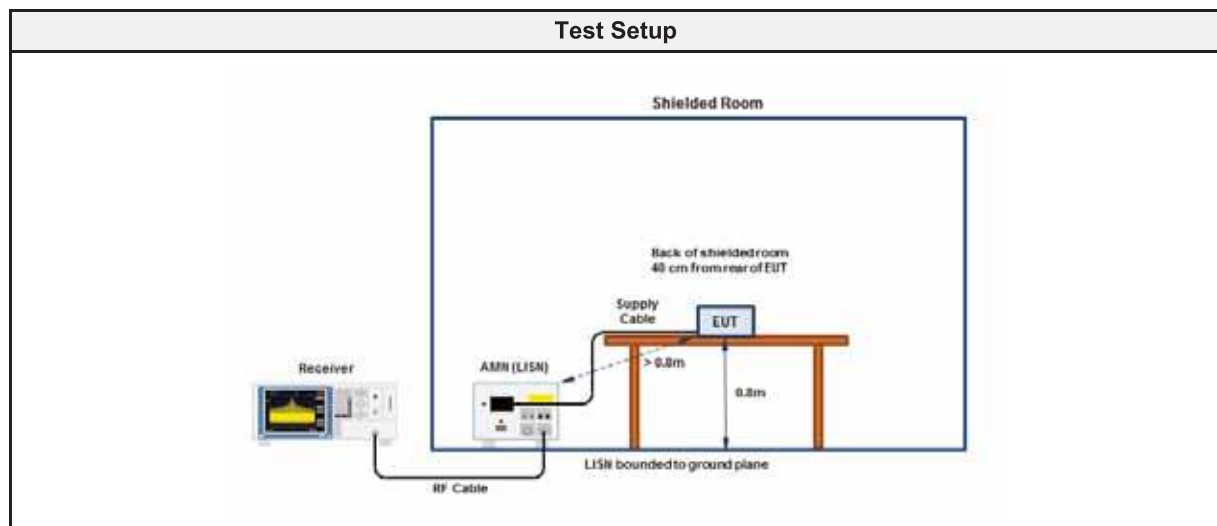
Test Information	
Reference	FCC 15.207
Measurement Method	ANSI C63.10 6.2
Operator	Wilfried Treffke
Date	2021-06-10
Measurement uncertainty	±3.82 %

3.6.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dBμV]	Average [dBμV]
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

* Limit decreases linearly with the logarithm of the frequency

3.6.3 Setup



3.6.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2016.1.10

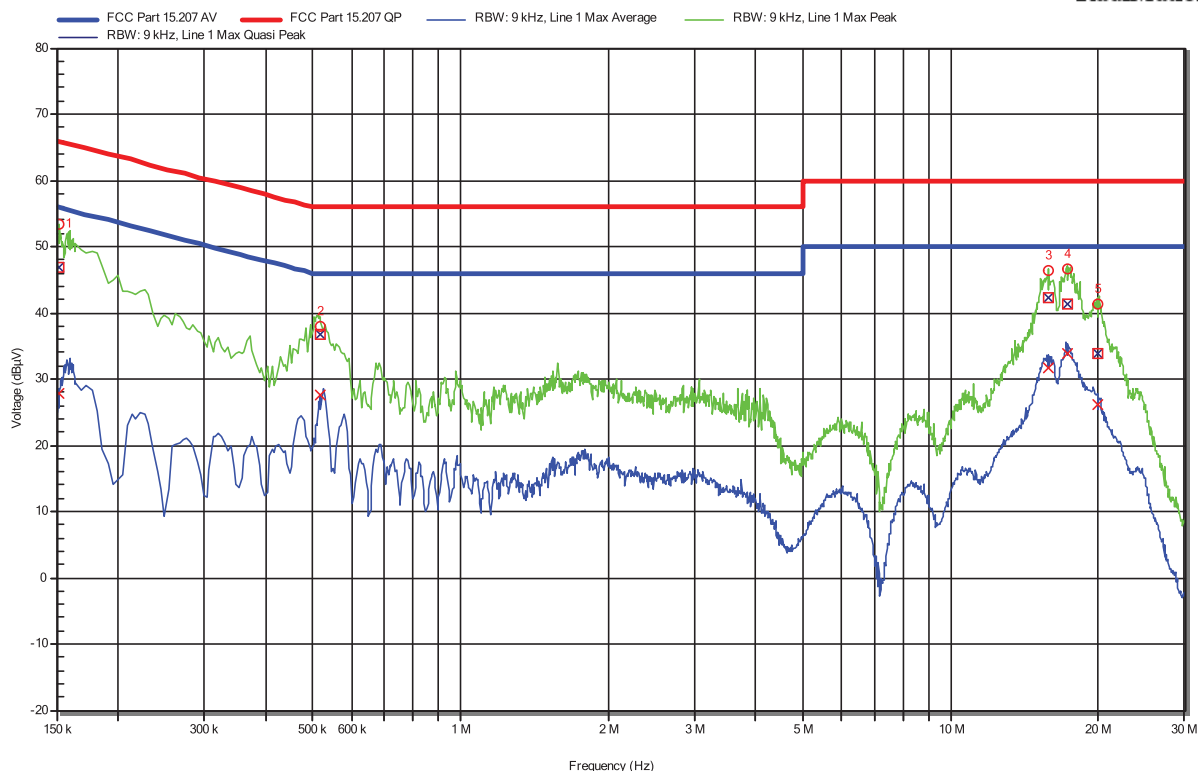
Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	R&S	ESR7	EF00943	2020-07	2021-07
Pulse Limiter	R&S	ESH3-Z2	EF01222	2020-07	2021-07
LISN	Schwarzbeck	NSLK 8127 RC	EF01592	2020-07	2021-07

Conducted emissions at the mains power port according to FCC 47 CFR Part 15 Subpart C

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968, (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Treffke
 Test Date: 2021-06-10
 Operating Conditions: ambient temperature: 22 °Celsius
 power input: 120 VAC
 LISN: Schwarzbeck NSLK 8127 RC L
 Operational Mode & Applied to Port: IEEE 802.11a, Channel: 149, 5745 MHz
 AC mains

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RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	151.8 kHz	46.75 dBµV	65.9 dBµV	-19.15 dB	Pass	Line 1
2	518.55 kHz	36.74 dBµV	56 dBµV	-19.26 dB	Pass	Line 1
3	15.864 MHz	42.21 dBµV	60 dBµV	-17.79 dB	Pass	Line 1
4	17.309 MHz	41.33 dBµV	60 dBµV	-18.67 dB	Pass	Line 1
5	19.946 MHz	33.94 dBµV	60 dBµV	-26.06 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	151.8 kHz	27.92 dBµV	55.9 dBµV	-27.98 dB	Pass	Line 1
2	518.55 kHz	27.66 dBµV	46 dBµV	-18.34 dB	Pass	Line 1
3	15.864 MHz	31.8 dBµV	50 dBµV	-18.2 dB	Pass	Line 1
4	17.309 MHz	33.94 dBµV	50 dBµV	-16.06 dB	Pass	Line 1
5	19.946 MHz	26.1 dBµV	50 dBµV	-23.9 dB	Pass	Line 1

Test Report No.: G0M-2101-9569-TFC407WF-V01

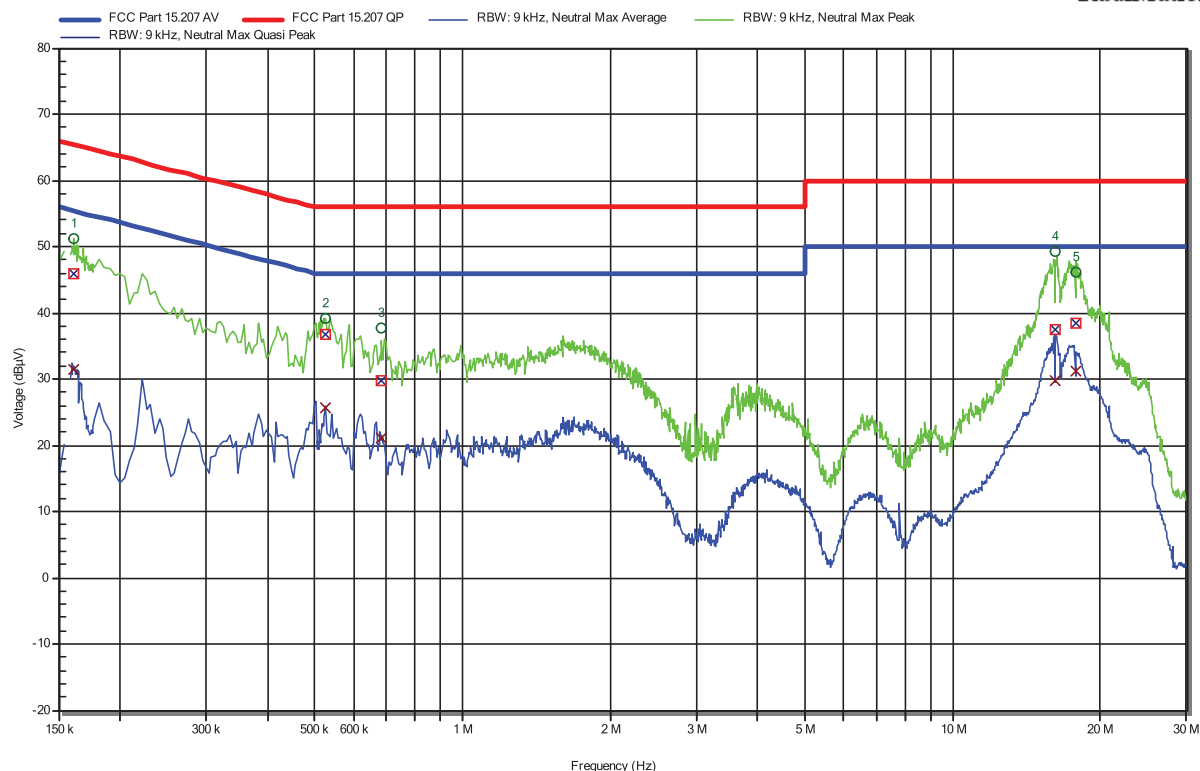
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted emissions at the mains power port according to FCC 47 CFR Part 15 Subpart C

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968, (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Treffke
 Test Date: 2021-06-10
 Operating Conditions: ambient temperature: 22 °Celsius
 power input: 120 VAC
 LISN: Schwarzbeck NSLK 8127 RC N
 Operational Mode & Applied to Port: IEEE 802.11a, Channel: 149, 5745 MHz
 AC mains

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RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	160.8 kHz	45.83 dBµV	65.42 dBµV	-19.59 dB	Pass	Neutral
2	523.5 kHz	36.66 dBµV	56 dBµV	-19.34 dB	Pass	Neutral
3	681 kHz	29.76 dBµV	56 dBµV	-26.24 dB	Pass	Neutral
4	16.179 MHz	37.37 dBµV	60 dBµV	-22.63 dB	Pass	Neutral
5	17.777 MHz	38.35 dBµV	60 dBµV	-21.65 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	160.8 kHz	31.37 dBµV	55.42 dBµV	-24.05 dB	Pass	Neutral
2	523.5 kHz	25.65 dBµV	46 dBµV	-20.35 dB	Pass	Neutral
3	681 kHz	21.11 dBµV	46 dBµV	-24.89 dB	Pass	Neutral
4	16.179 MHz	29.79 dBµV	50 dBµV	-20.21 dB	Pass	Neutral
5	17.777 MHz	31.23 dBµV	50 dBµV	-18.77 dB	Pass	Neutral

Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

3.7 Test Conditions and Results - Transmitter radiated emissions

3.7.1 Information

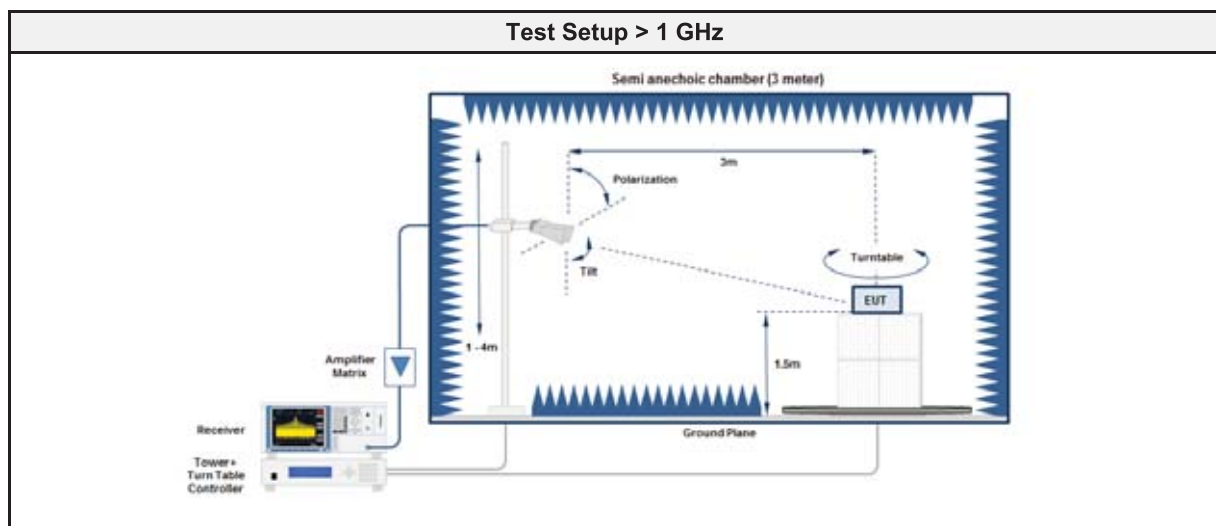
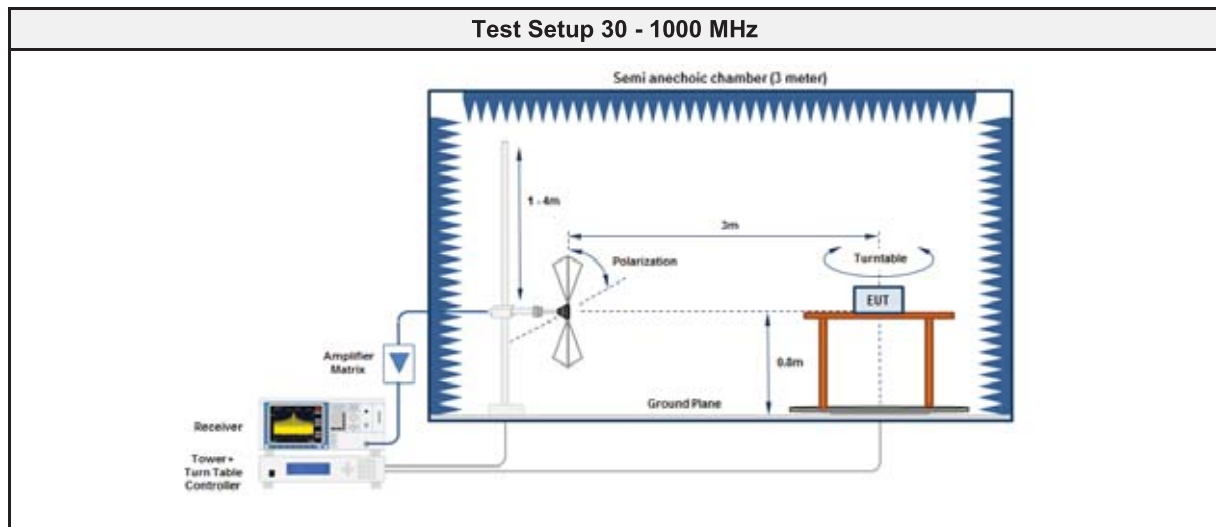
Test Information	
Reference	FCC 15.407(b)
Measurement Method	KDB 789033 G
Operator	Wilfried Treffke
Date	2021-07-01 – 2021-07-20
Measurement uncertainty	±5.1 %

3.7.2 Limits

Limits - Restricted frequency bands and below 1 GHz			
Frequency [MHz]	Detector	Field strength [μV/m]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

Limits - Outside restricted frequency bands above 1 GHz			
Frequency band [MHz]	Power limit [dBm EIRP]	Field strength limit [dBμV/m]	Measurement distance [m]
5150 - 5250	-27 dBm/MHz	68.2	3
5250 - 5350	-27 dBm/MHz	68.2	3
5470 - 5725	-27 dBm/MHz	68.2	3
5725 - 5850	-27 dBm/MHz @ ±75 MHz from band edge	68.2	3
5725 - 5850	10 to -27 dBm/MHz @ ±25 to ±75 MHz from band edge	105.2 to 68.2	3
5725 - 5850	15.6 to 10 dBm/MHz @ ±5 to ±25 MHz from band edge	110.8 to 105.2	3
5725 - 5850	27 to 15.6 dBm/MHz @ ±0 to ±5 MHz from band edge	122.2 to 110.8	3

3.7.3 Setup



3.7.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	R&S	HK 116	EF00030	2019-04	2022-04
Antenna	R&S	HL 223	EF00212	2019-05	2022-05

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	Schwarzbeck	BBHA 9120D	EF00018	2019-10	2022-10
Antenna	Amplifier Research	AT4560	EF01152	2020-11	2022-11
Antenna	Flann Microwave Ltd	22240-25 Amp. CBL26402075	EF00301	2019-12	2022-12

3.7.5 Procedure

Test Procedure 30 - 1000 MHz
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

Test Procedure > 1 GHz
1. EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

3.7.6 Results

Test Results - Channel 36 / 5180 MHz - OFDM					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
5143	59.22	pk	ver	74.00	-14.78
5143	44.92	RMS	ver	54.00	-09.08
5150	66.75	pk	hor	74.00	-07.25
5150	48.64	RMS	hor	54.00	-05.36
15540	63.86	pk	hor	74.00	-10.14
15540	45.95	RMS	hor	54.00	-08.05
15543	56.49	pk	ver	74.00	-17.51
15543	47.08	RMS	ver	54.00	-06.92

Test Results - Channel 48 / 5240 MHz - OFDM					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
15723	57.48	pk	hor	74.00	-16.52
15723	42.54	RMS	hor	54.00	-11.46
15724	57.16	pk	ver	74.00	-16.84
15724	46.78	RMS	ver	54.00	-07.22

Test Results - Channel 36+40 / 5190 MHz - VHT40					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
5098	46.24	pk	hor	74.00	-27.76
5146	68.86	pk	hor	74.00	-05.14
5146	50.56	RMS	hor	54.00	-03.44
5148	63.07	pk	ver	74.00	-10.93
5148	46.87	RMS	ver	54.00	-07.13
5150	65.50	pk	hor	74.00	-08.50
5150	51.41	RMS	hor	54.00	-02.59
15545	53.24	pk	hor	74.00	-20.76
15545	38.18	RMS	hor	54.00	-15.82
15568	54.91	pk	ver	74.00	-19.09
15568	46.81	RMS	ver	54.00	-07.19

Test Results - Channel 44+48 / 5230 MHz - VHT40					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
4680	48.09	pk	hor	74.00	-25.91
15676	53.55	pk	hor	74.00	-20.45
15676	42.17	RMS	hor	54.00	-11.83
15680	55.92	pk	ver	74.00	-18.08
15680	47.12	RMS	ver	54.00	-06.88

Test Results - Channel 36+40+44+48 / 5210 MHz - VHT80					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
4139	46.20	pk	hor	74.00	-27.80
4458	51.57	pk	hor	68.20	-16.63
5090	56.09	pk	hor	74.00	-17.91
5090	42.68	RMS	hor	54.00	-11.32
5095	43.94	pk	hor	74.00	-30.06
5148	60.19	pk	ver	74.00	-13.81
5148	44.61	RMS	ver	54.00	-09.39
5150	64.46	pk	hor	74.00	-09.54
5150	50.75	RMS	hor	54.00	-03.25
5367	58.28	pk	hor	74.00	-15.72
5367	45.00	RMS	hor	54.00	-09.00
15659	51.28	pk	ver	74.00	-22.72
15659	41.27	RMS	ver	54.00	-12.73

Test Results - Channel 149 / 5745 MHz - OFDM					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
5725	66.37	pk	hor	122.00	-55.63

Test Results - Channel 165 / 5825 MHz - OFDM					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
Comments: No significant spurious emissions					

Test Results - Channel 149+153 / 5755 MHz - VHT40					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
17259	41.65	pk	ver	68.20	-26.55

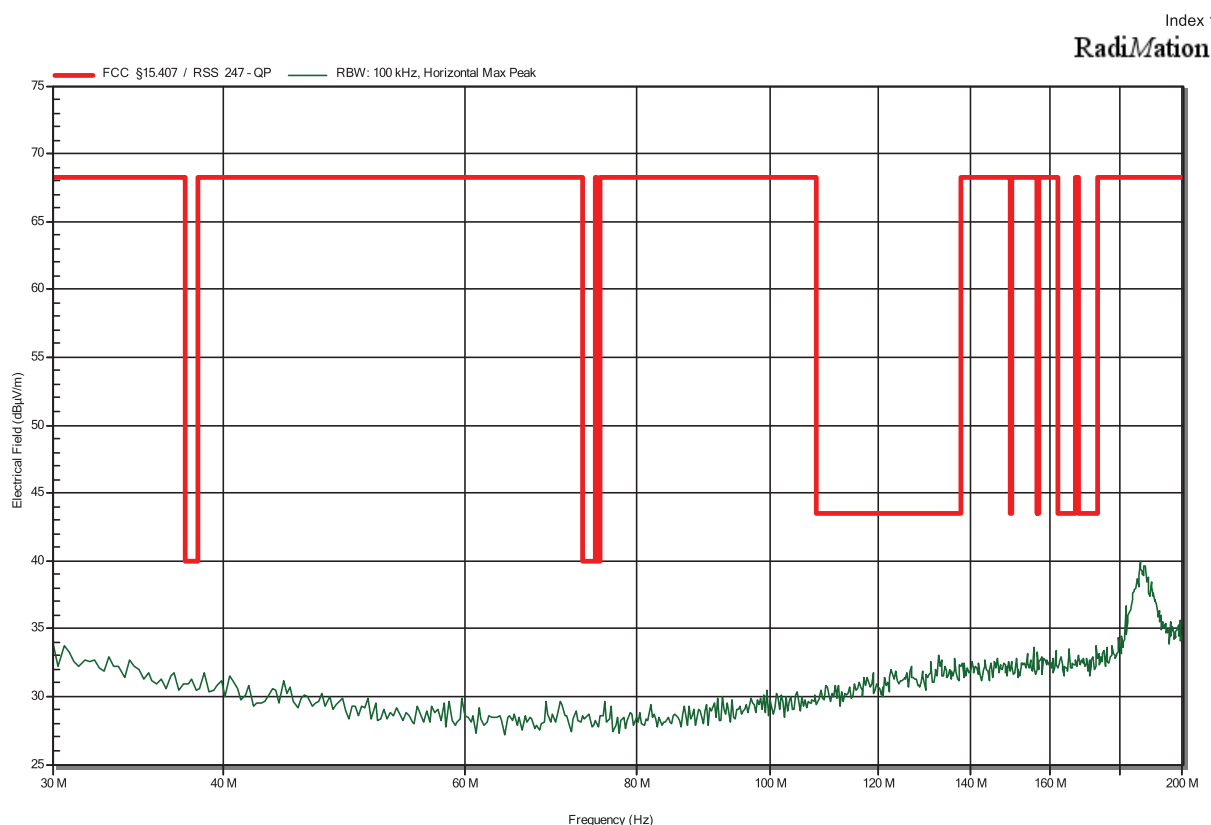
Test Results - Channel 157+161 / 5795 MHz - VHT40					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
Comments: No significant spurious emissions					

Test Results - Channel 149+153+157+161 / 5775 MHz - VHT80					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
Comments: No significant spurious emissions					

ANNEX A Transmitter spurious emissions

Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-06-28
 Note: EUT horizontal

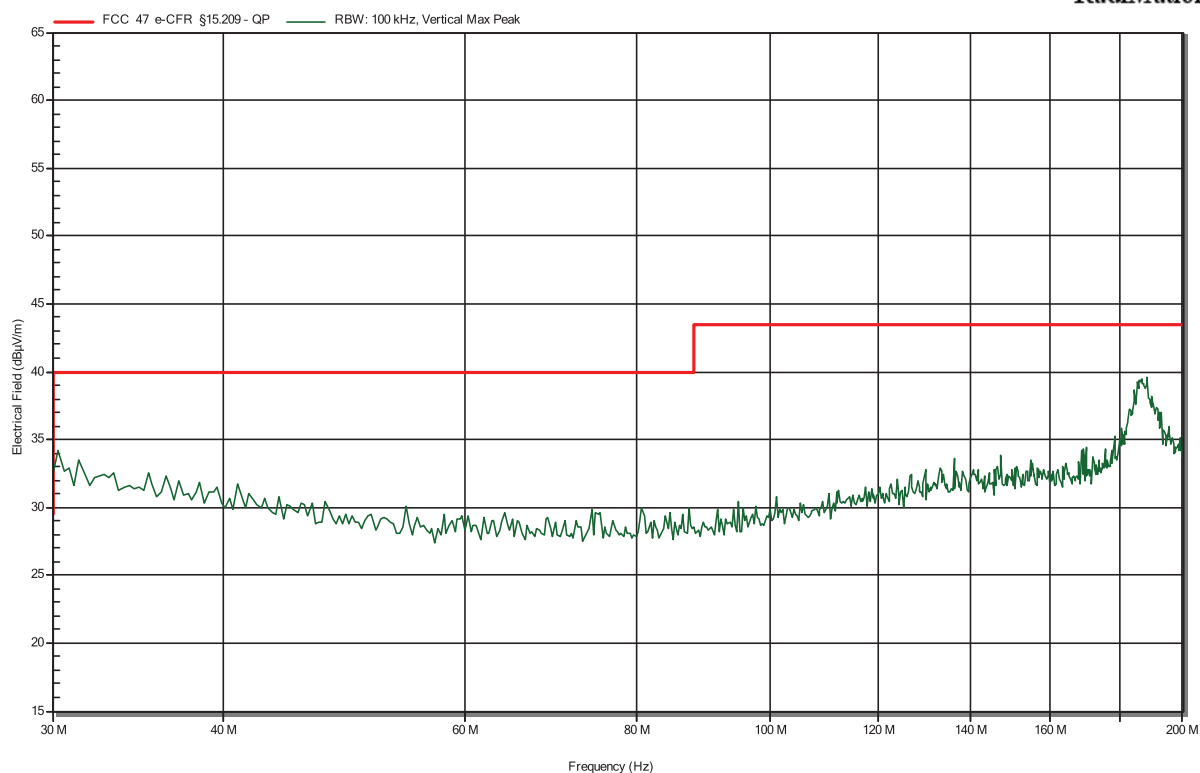


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 Applicant: Panasonic Industrial Devices Europe GmbH
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 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-06-28
 Note: EUT horizontal

Index 2

RadiMation

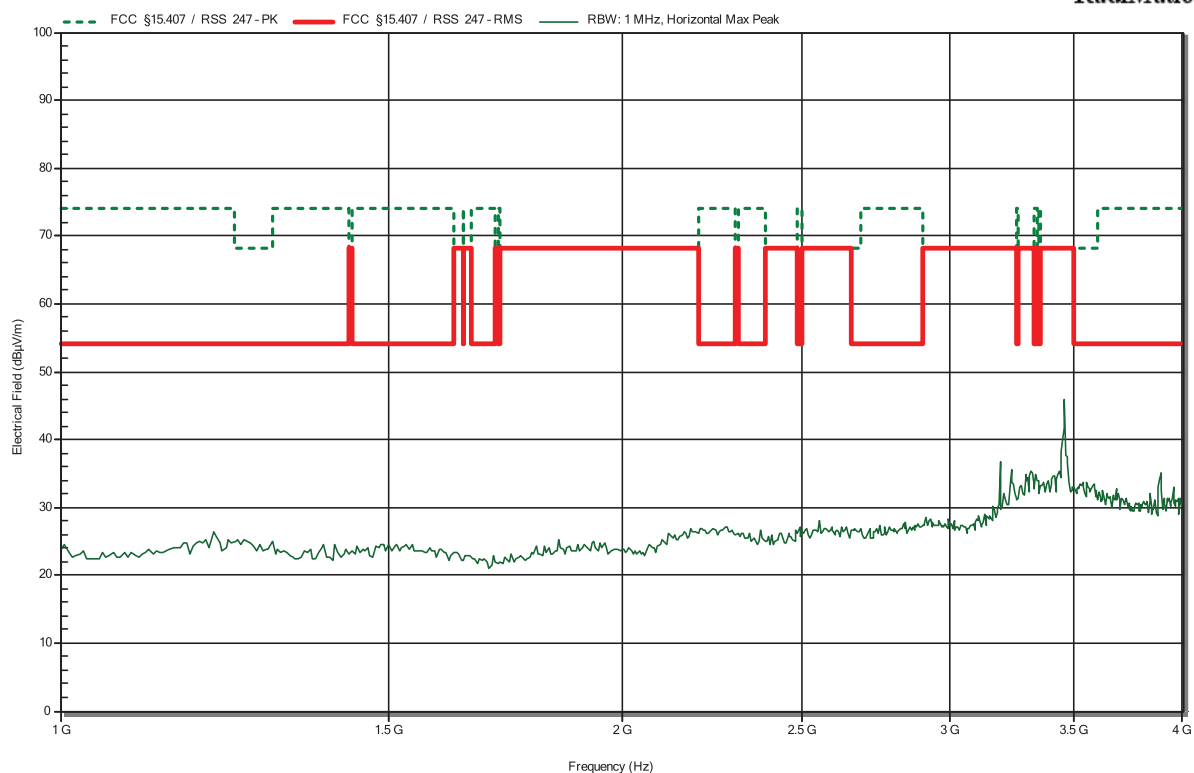


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

Index 3

RadiMation

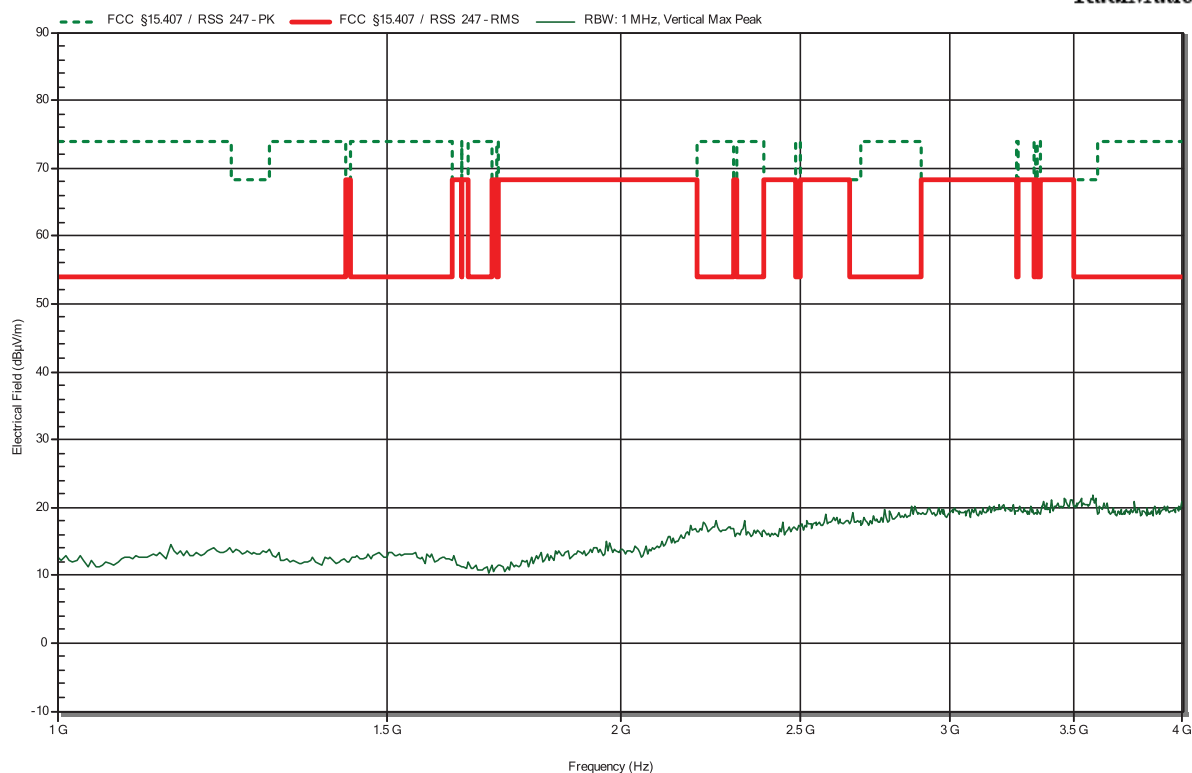


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
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 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

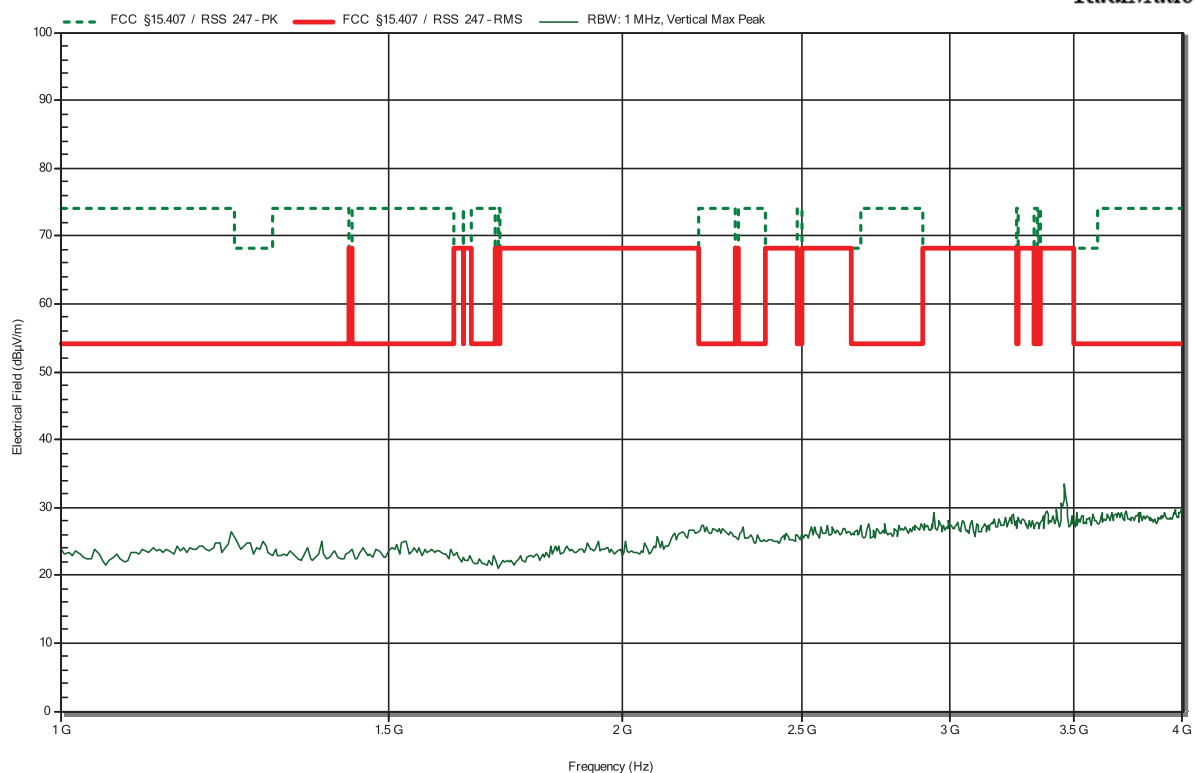


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Project Number: G0M-2101-9569
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 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

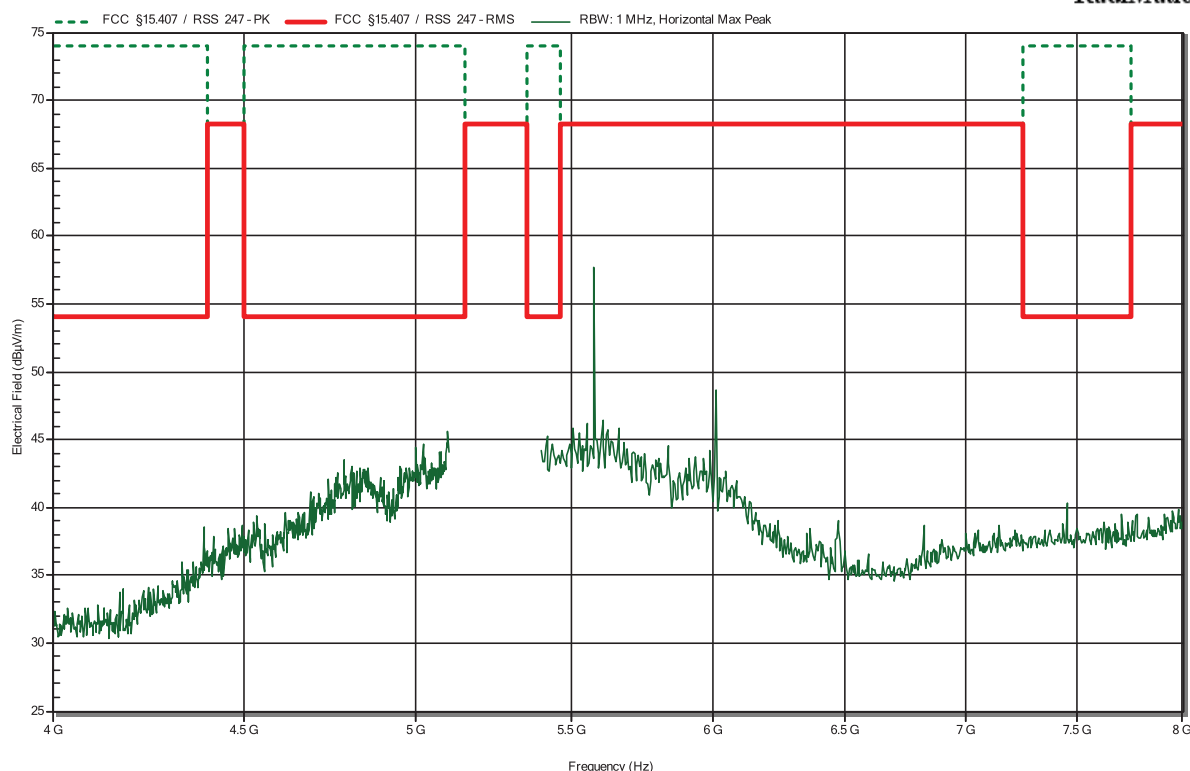


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

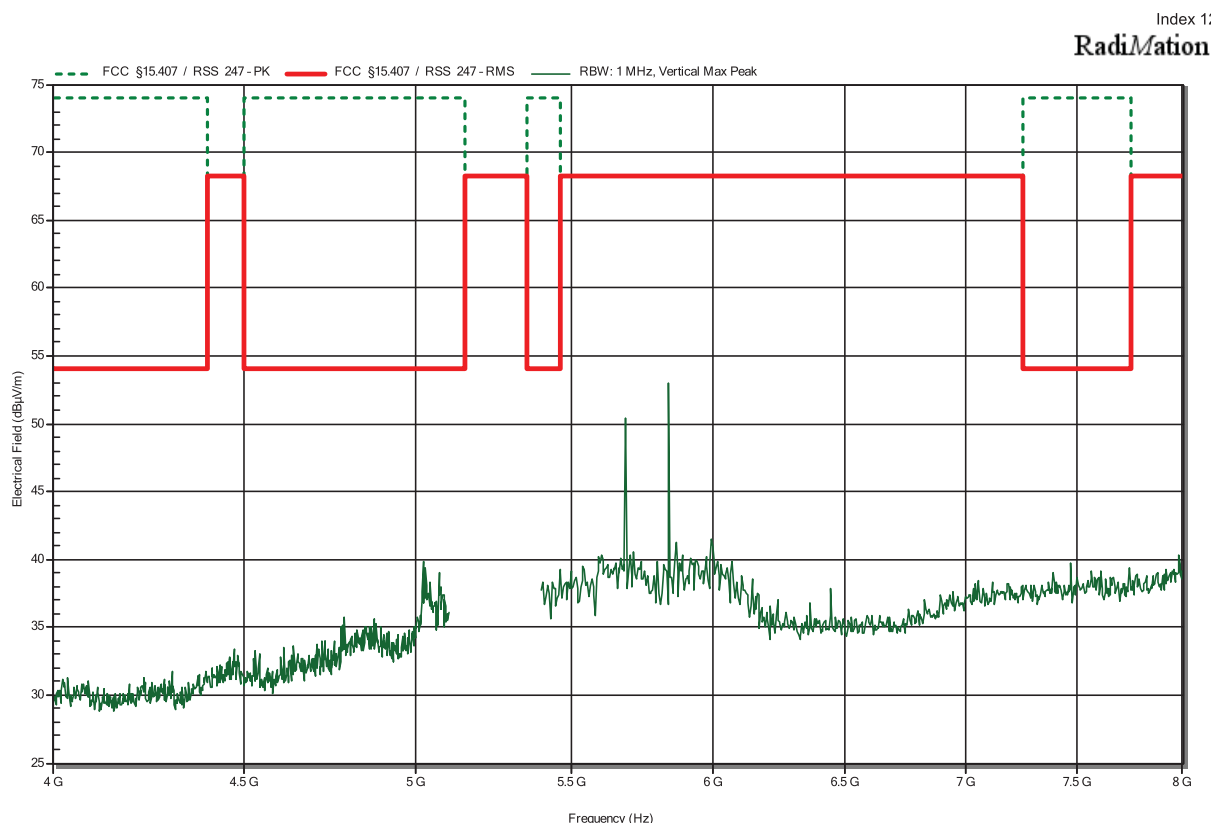
Index 4

RadiMation



Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

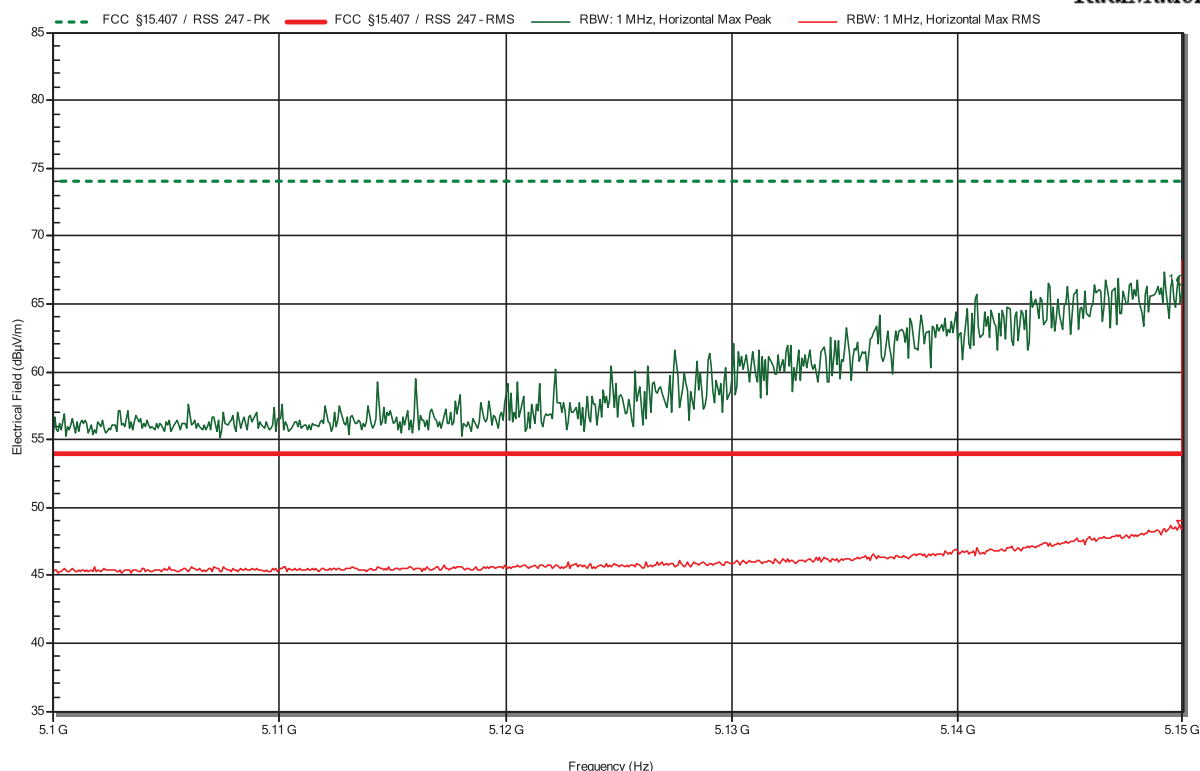


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: lower band area, EUT horizontal

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RadiMation



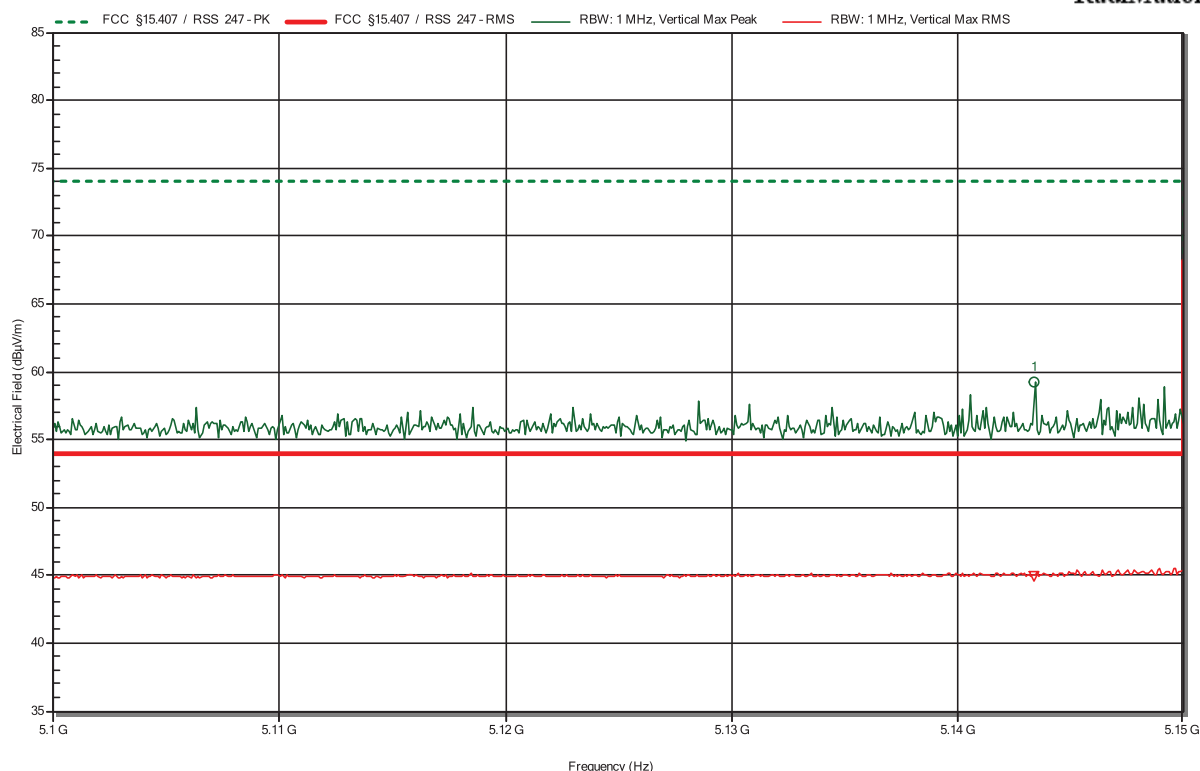
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.15 GHz	66.75 dBμV/m	74 dBμV/m	-7.25 dB	Pass
Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.15 GHz	48.64 dBμV/m	54 dBμV/m	-5.36 dB	Pass

Radiated Spurious Emissions according to FCC 15.407

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 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: lower band area, EUT horizontal

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RadiMation



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.143 GHz	59.22 dBμV/m	74 dBμV/m	-14.78 dB	Pass
Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.143 GHz	44.92 dBμV/m	54 dBμV/m	-9.08 dB	Pass

Test Report No.: G0M-2101-9569-TFC407WF-V01

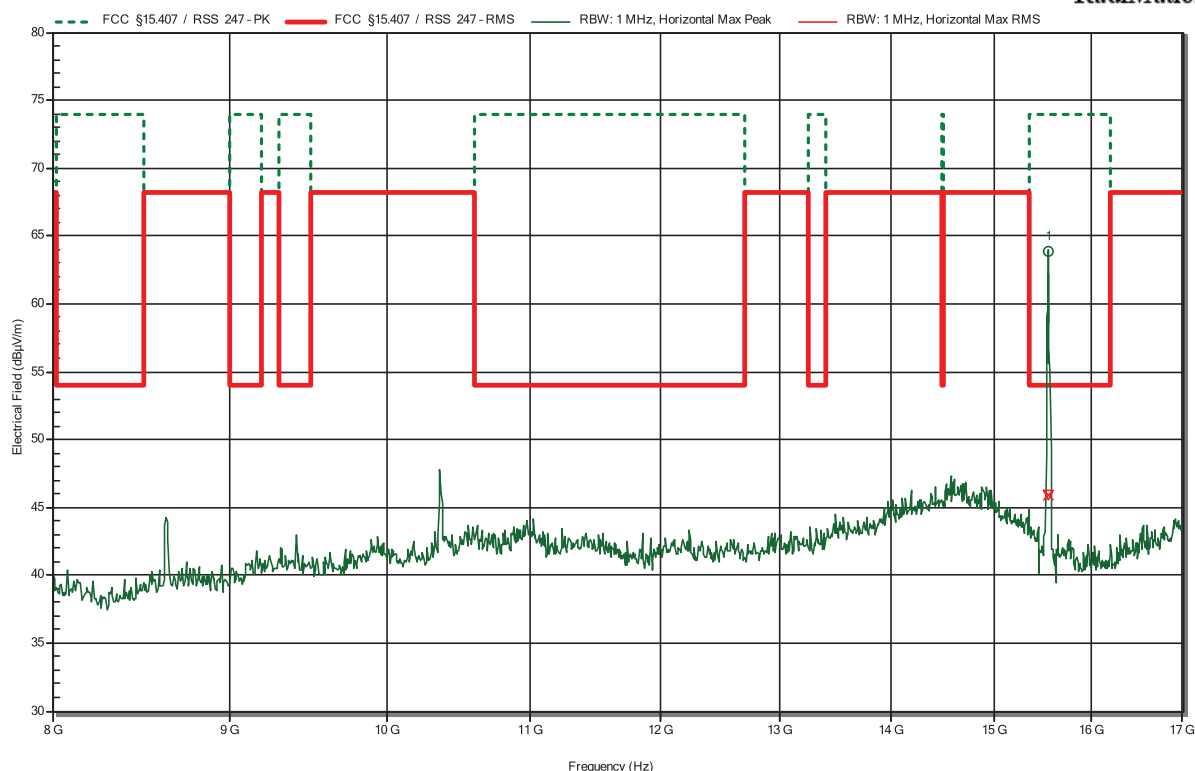
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to FCC 15.407

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 Applicant: Panasonic Industrial Devices Europe GmbH
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 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation



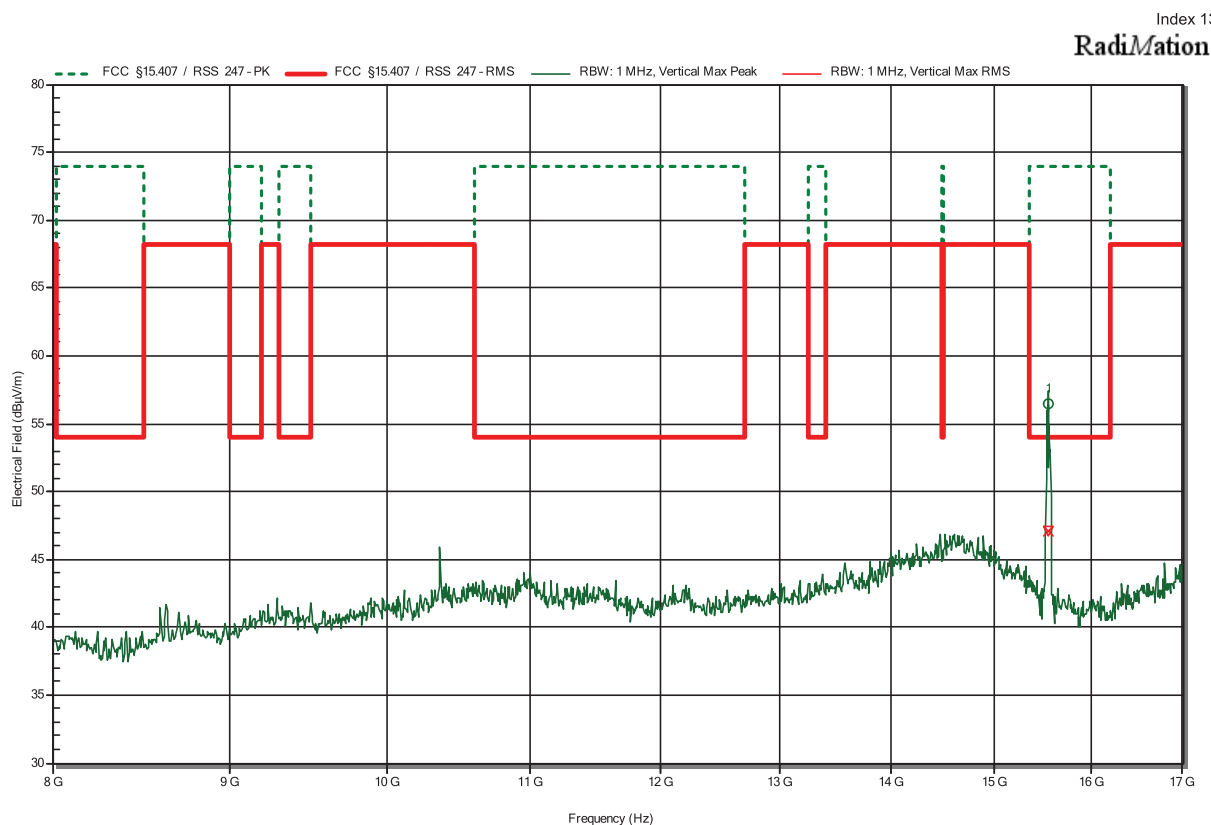
Frequency 15.54 GHz	Peak 63.86 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -10.14 dB	Peak Status Pass
Frequency 15.54 GHz	RMS 45.95 dBµV/m	RMS Limit 54 dBµV/m	RMS Difference -8.05 dB	RMS Status Pass

Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

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 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
15.543 GHz	56.49 dBµV/m	74 dBµV/m	-17.51 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
15.543 GHz	47.08 dBµV/m	54 dBµV/m	-6.92 dB	Pass

Test Report No.: G0M-2101-9569-TFC407WF-V01

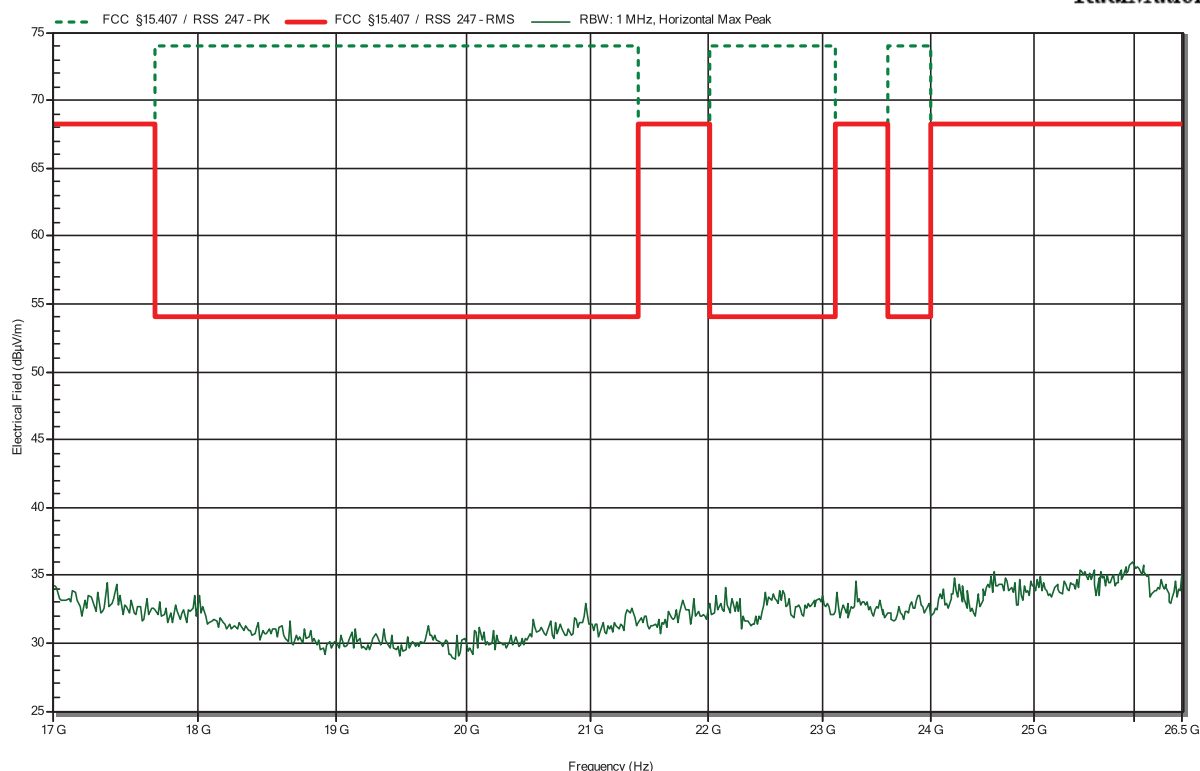
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to FCC 15.407

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 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Amplifier Research AT4560, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

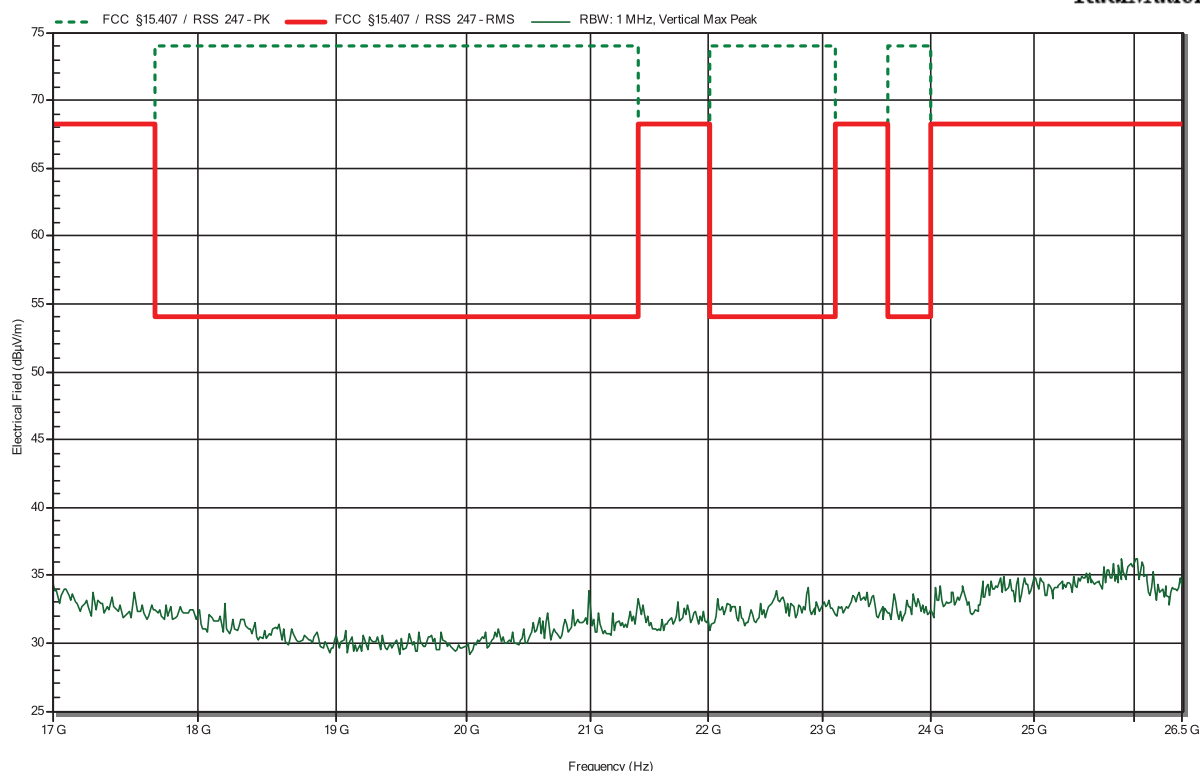


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
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 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Amplifier Research AT4560, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

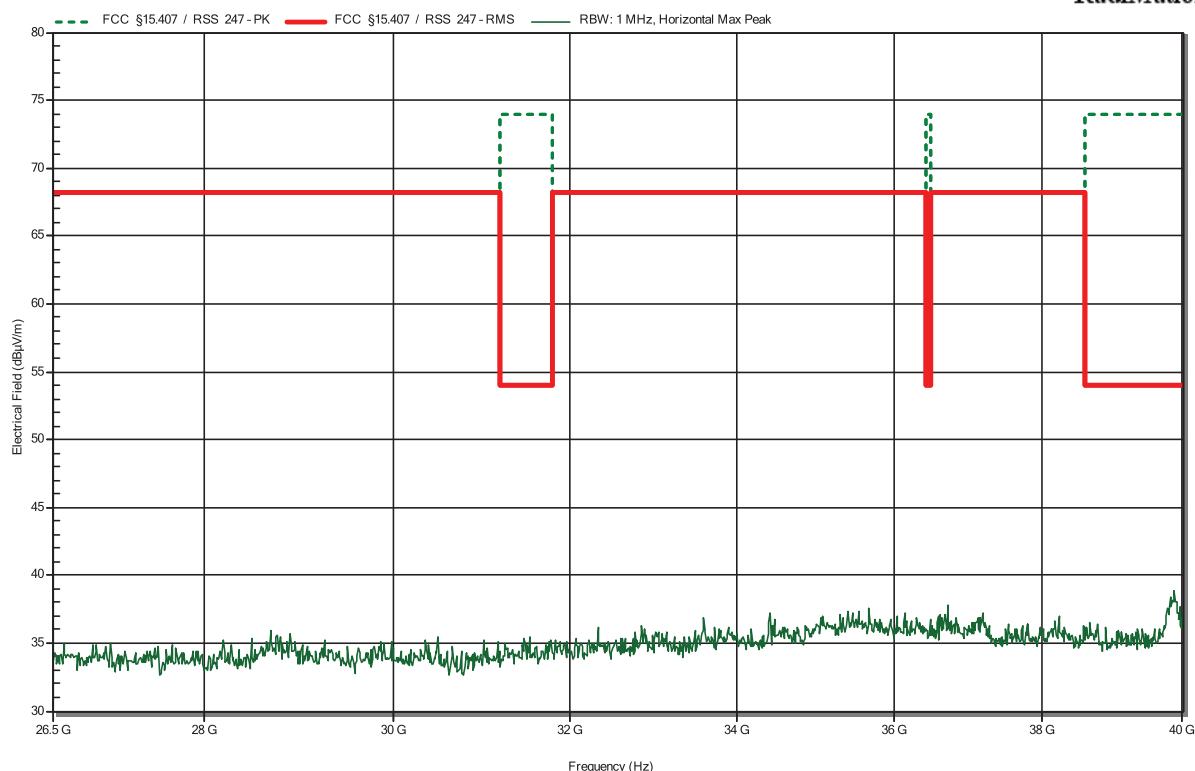


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Flann Microwave Ltd 22240-25+CBL26402075, Horizontal
 Measurement distance: 1 m, converted to 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-20
 Note: EUT horizontal

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RadiMation

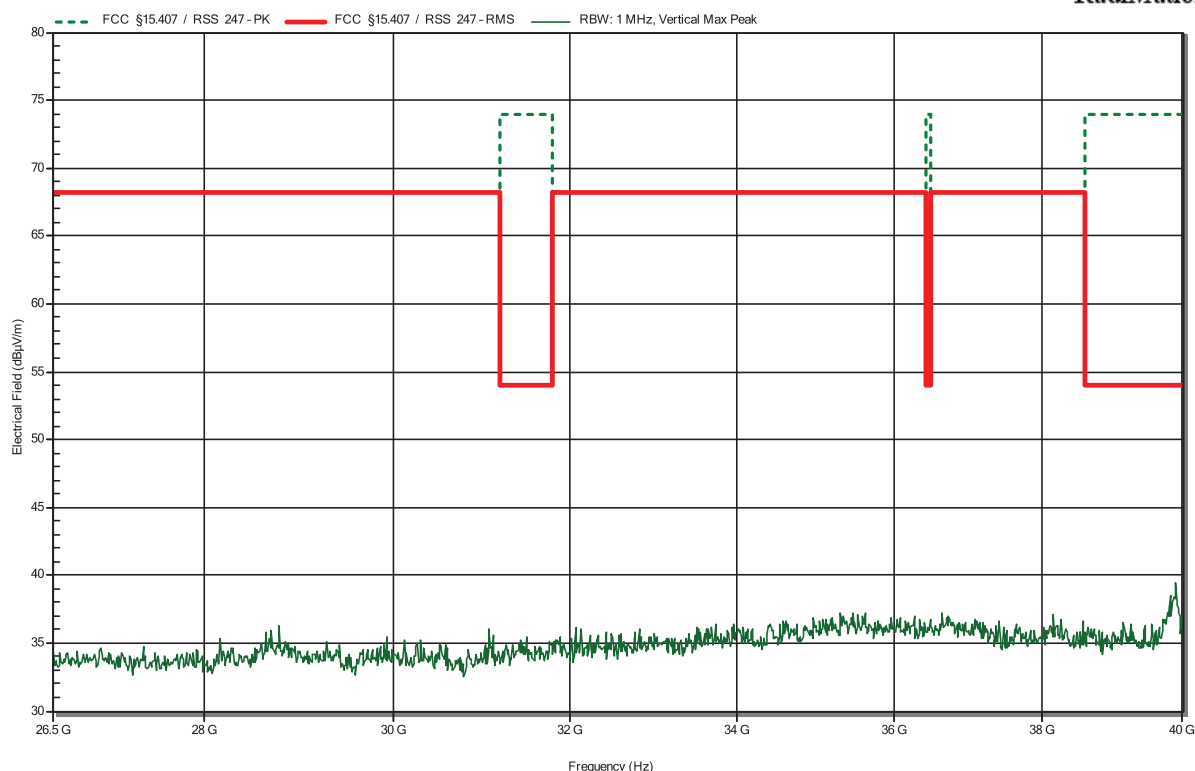


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Flann Microwave Ltd 22240-25+CBL26402075, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5180 MHz
 Test Date: 2021-07-20
 Note: EUT horizontal

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RadiMation

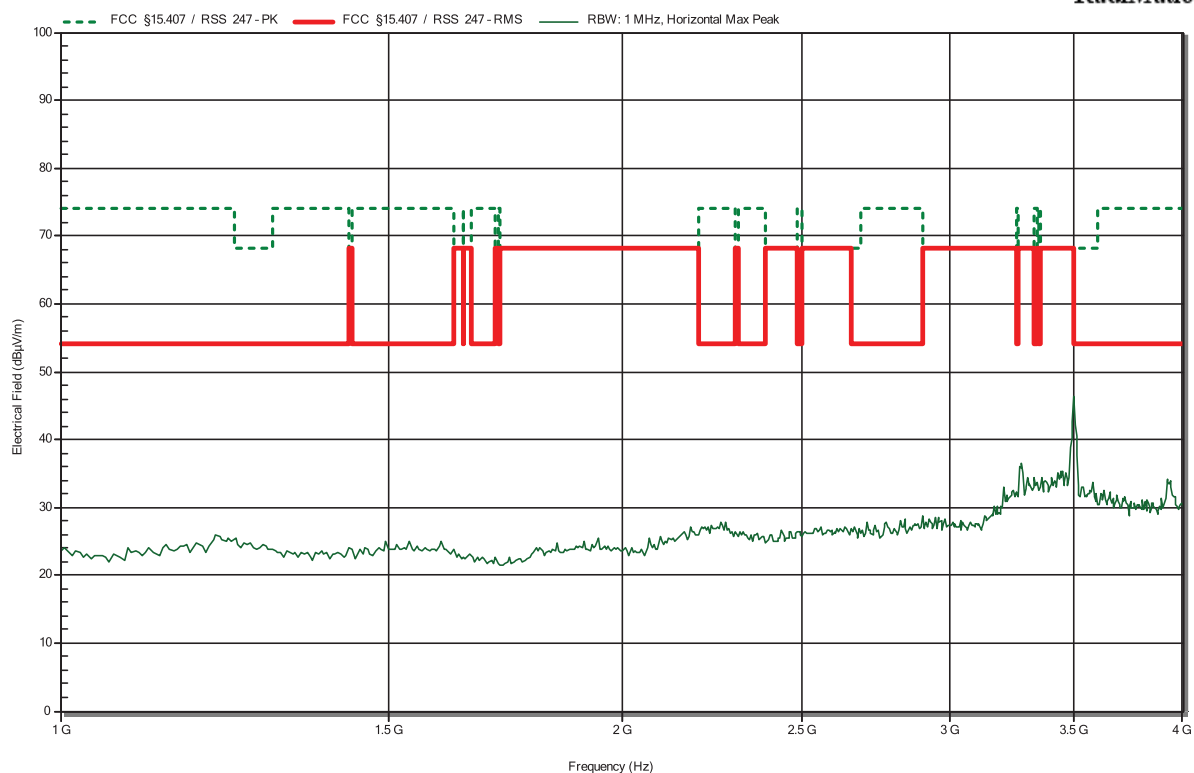


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

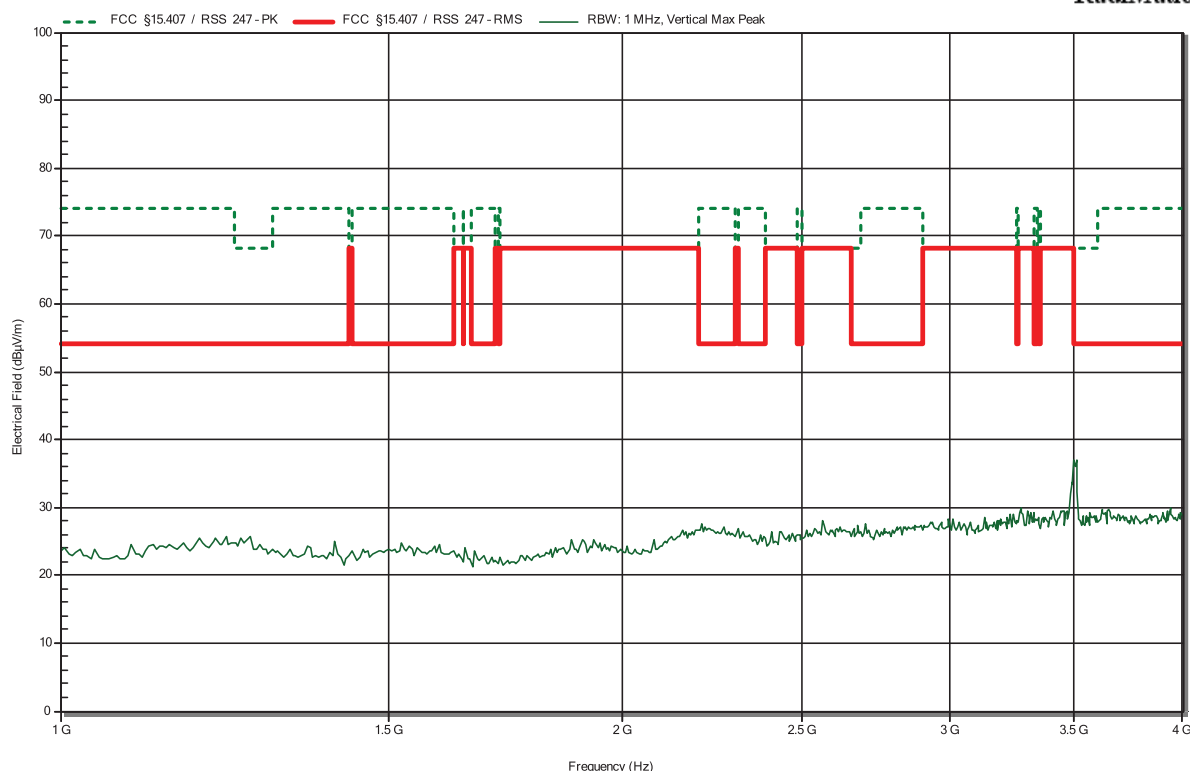


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

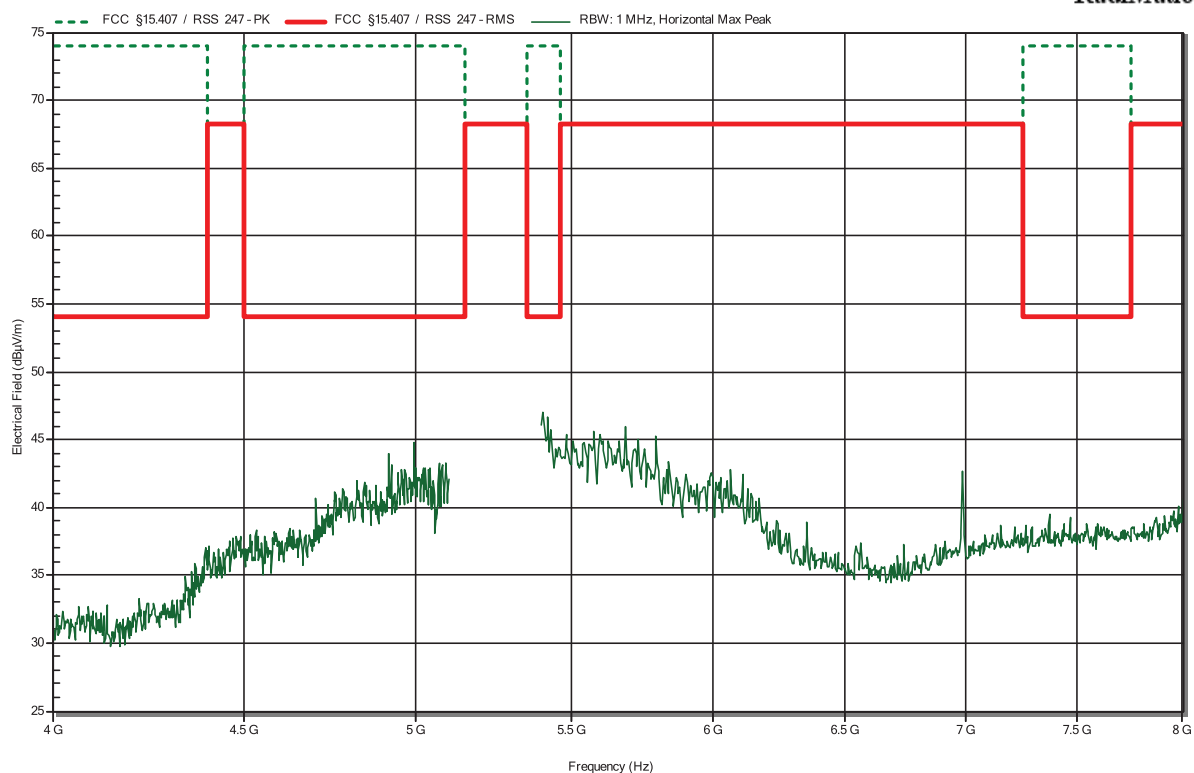


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
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 Model: ENWF9408A1EF
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 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

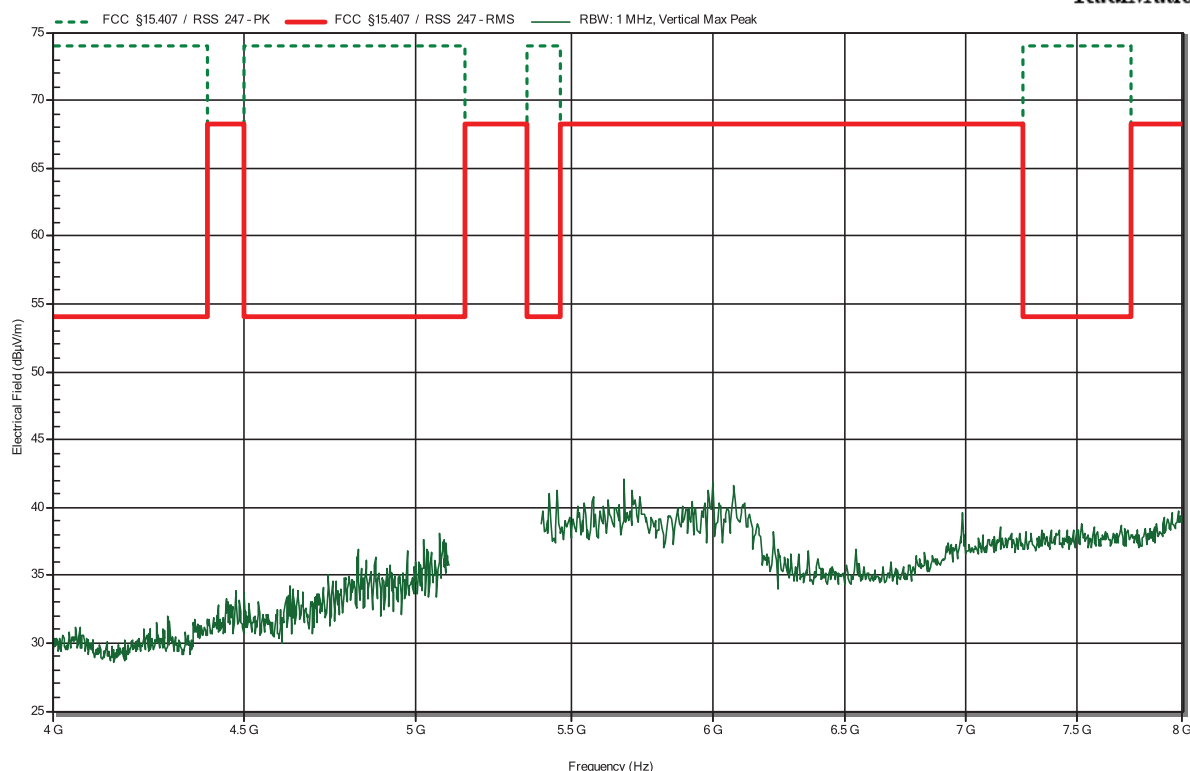


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 Applicant: Panasonic Industrial Devices Europe GmbH
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 Operator: Wilfried Treffke
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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

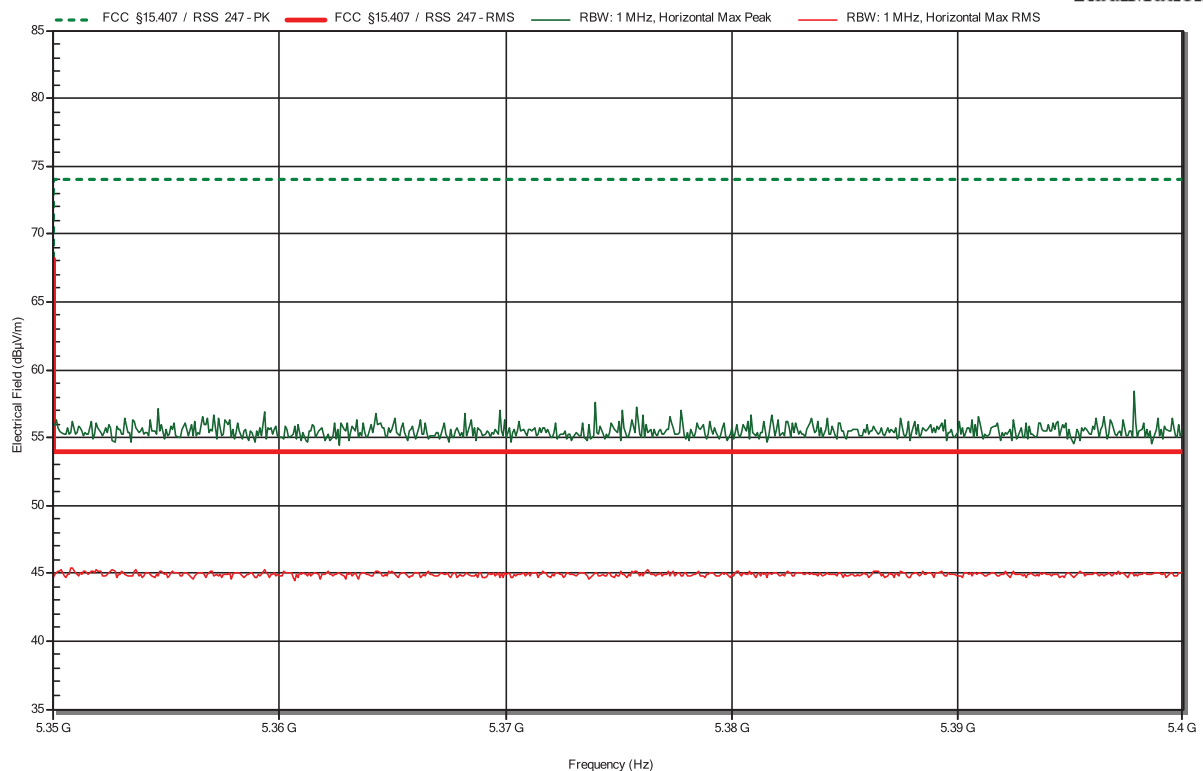


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: upper bandedge, EUT horizontal

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RadiMation

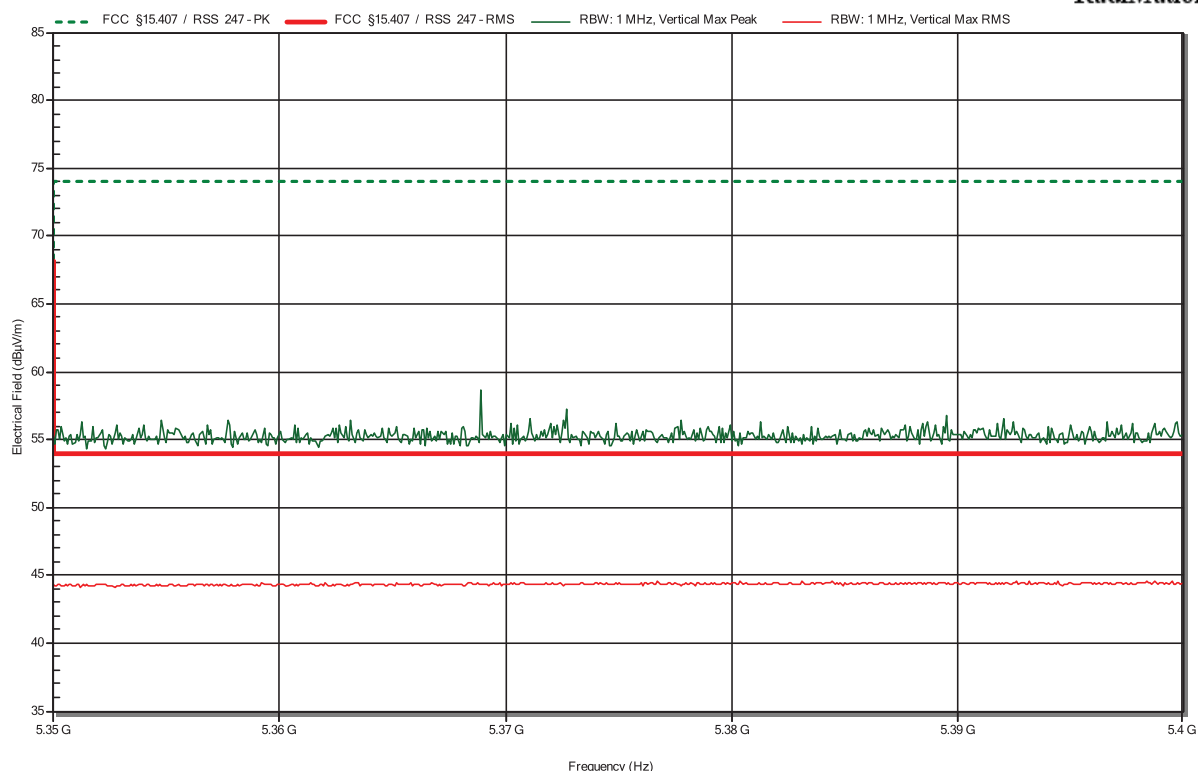


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 Applicant: Panasonic Industrial Devices Europe GmbH
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 Model: ENWF9408A1EF
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 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: upper bandedge, EUT horizontal

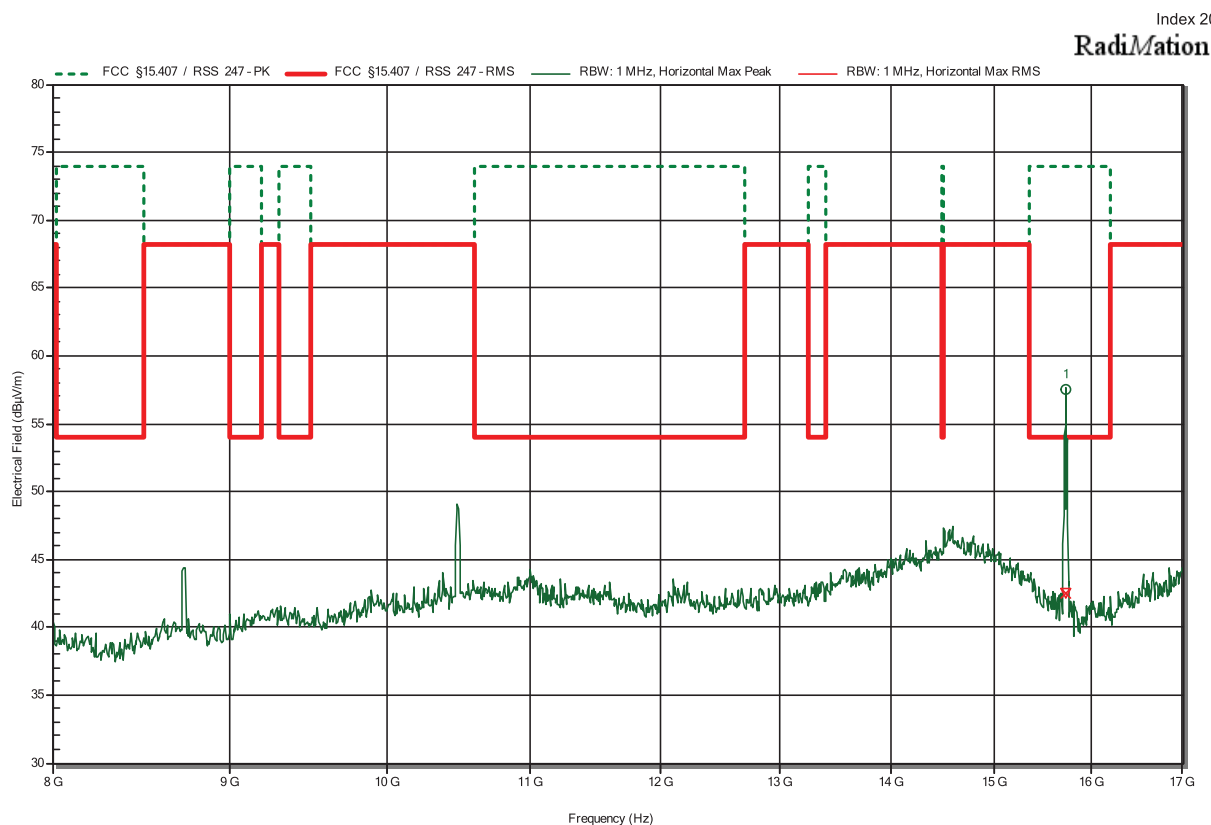
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Radiated Spurious Emissions according to FCC 15.407

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 Applicant: Panasonic Industrial Devices Europe GmbH
 Model Description: Wi-Fi Dual Band 2.4/5 GHz and Bluetooth Module
 Model: ENWF9408A1EF
 Test Sample ID: 34968 (A1 8 SerNr: 826)
 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal



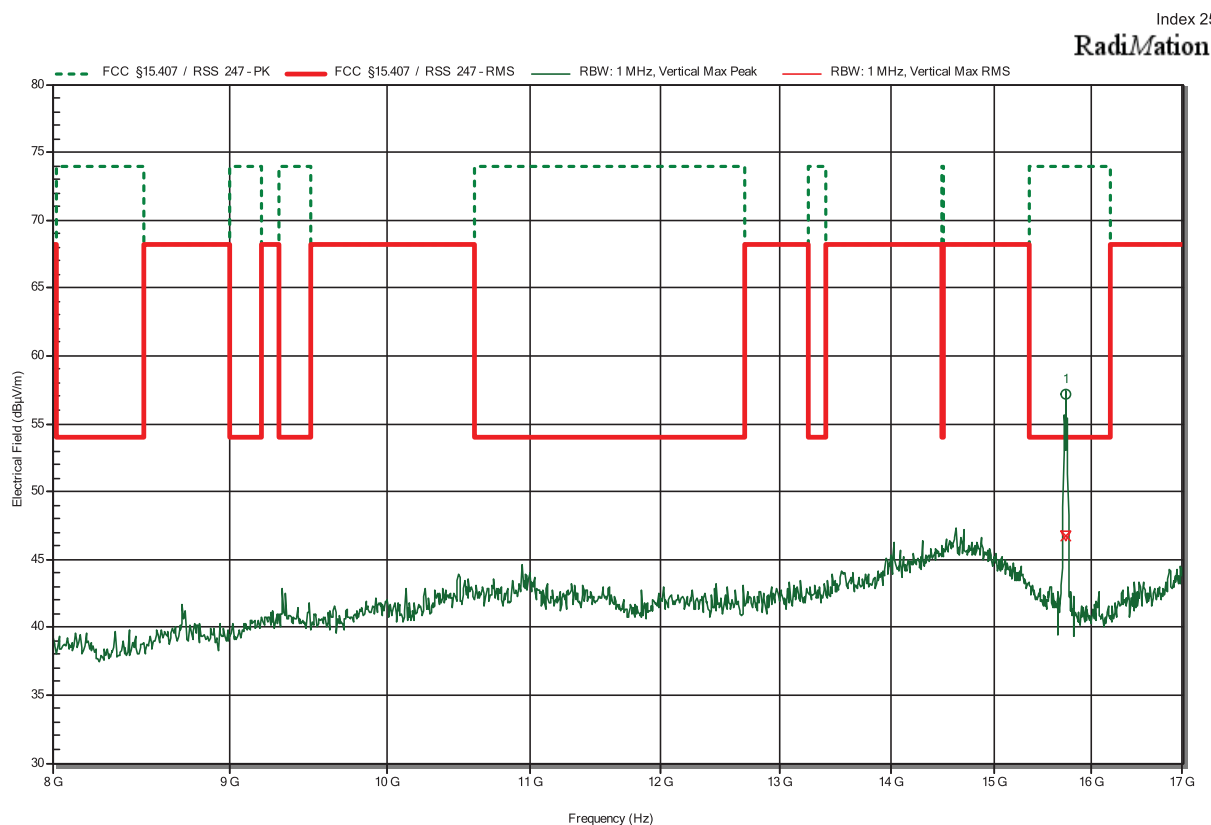
Frequency 15.723 GHz	Peak 57.48 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -16.52 dB	Peak Status Pass
Frequency 15.723 GHz	RMS 42.54 dBµV/m	RMS Limit 54 dBµV/m	RMS Difference -11.46 dB	RMS Status Pass

Test Report No.: G0M-2101-9569-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
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 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
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 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal



Frequency 15.724 GHz	Peak 57.16 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -16.84 dB	Peak Status Pass
Frequency 15.724 GHz	RMS 46.78 dBµV/m	RMS Limit 54 dBµV/m	RMS Difference -7.22 dB	RMS Status Pass

Test Report No.: G0M-2101-9569-TFC407WF-V01

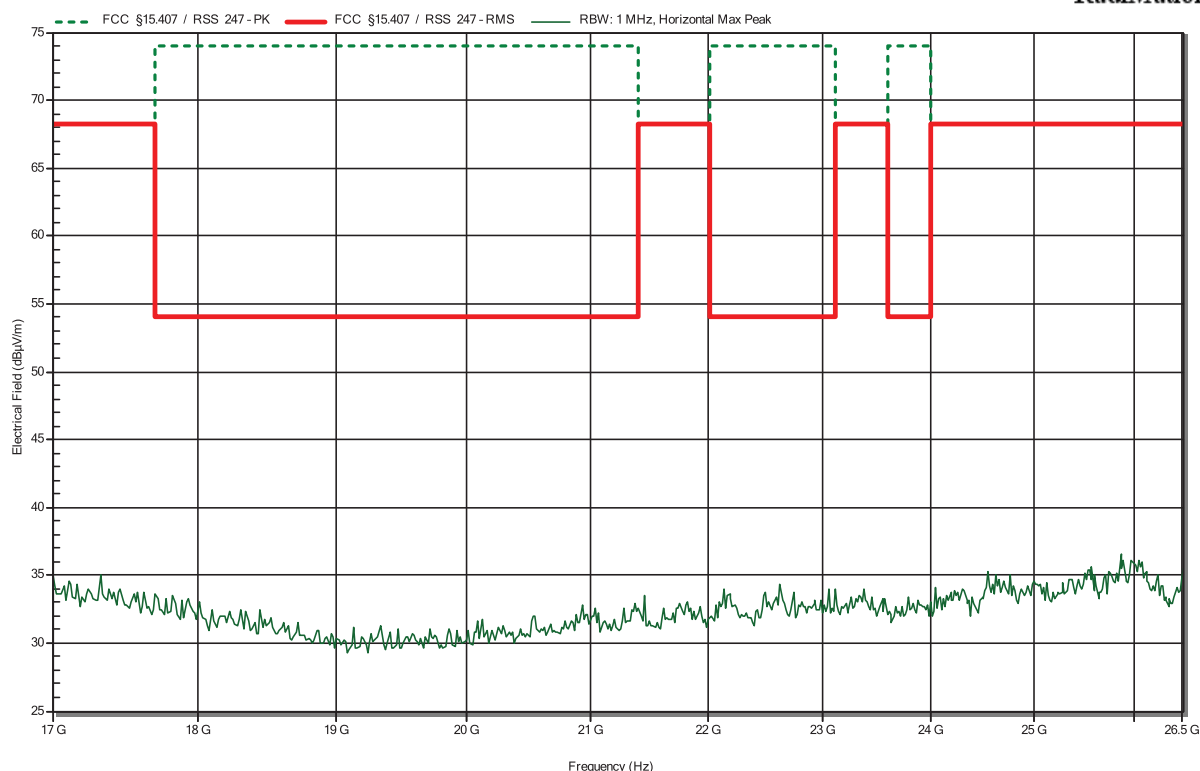
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

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 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Amplifier Research AT4560, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

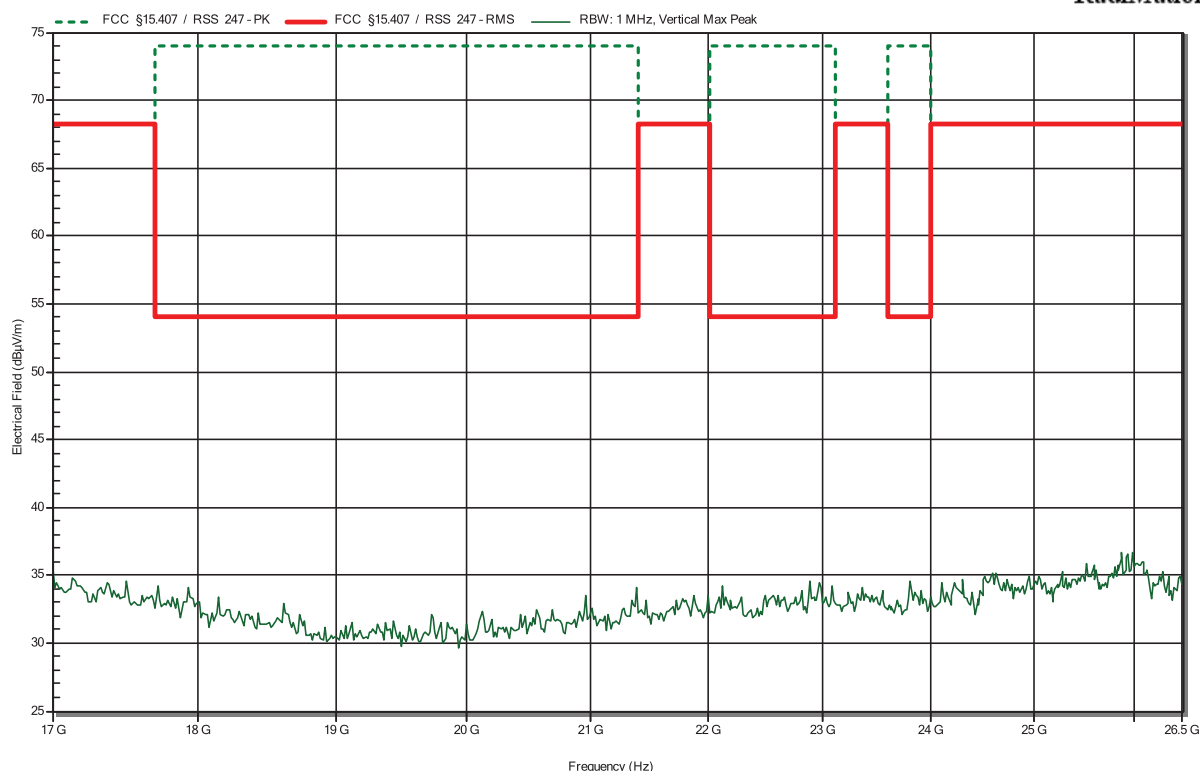


Radiated Spurious Emissions according to FCC 15.407

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 Operator: Wilfried Treffke
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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Amplifier Research AT4560, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-01
 Note: EUT horizontal

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RadiMation

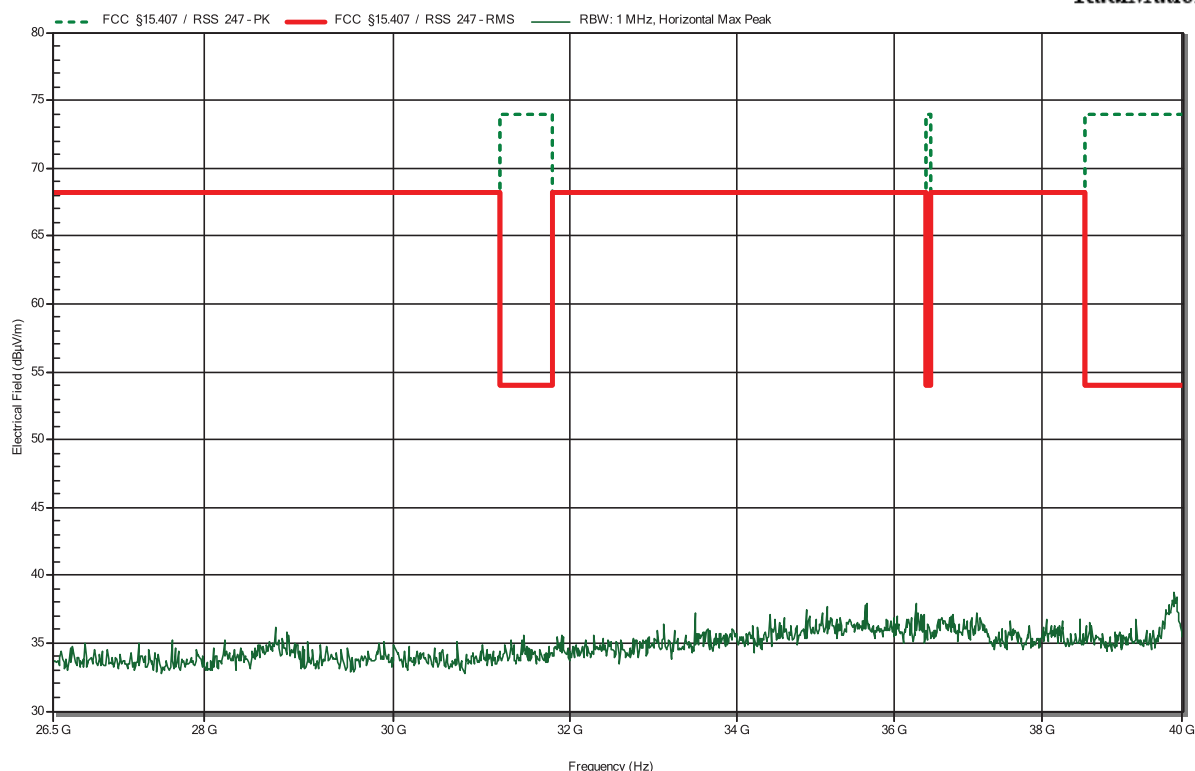


Radiated Spurious Emissions according to FCC 15.407

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 Applicant: Panasonic Industrial Devices Europe GmbH
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 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Flann Microwave Ltd 22240-25+CBL26402075, Horizontal
 Measurement distance: 1 m, converted to 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-20
 Note: EUT horizontal

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RadiMation

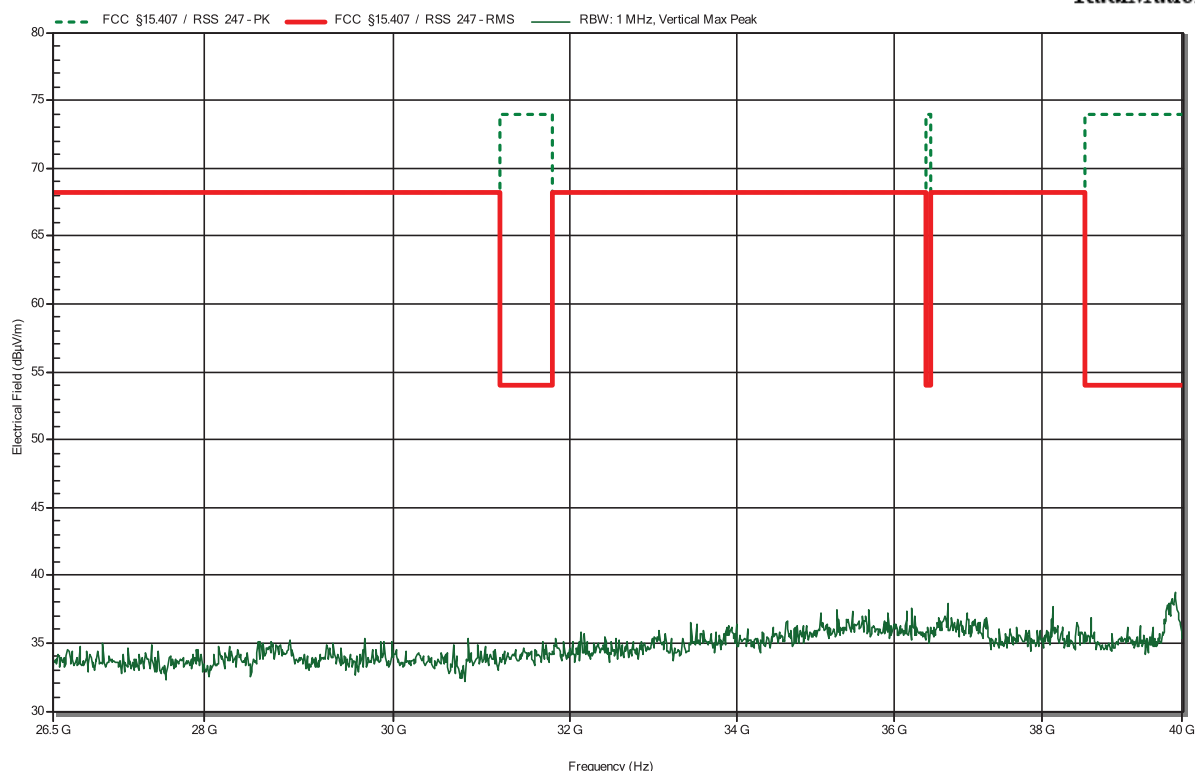


Radiated Spurious Emissions according to FCC 15.407

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 Applicant: Panasonic Industrial Devices Europe GmbH
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 Operator: Wilfried Treffke
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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Flann Microwave Ltd 22240-25+CBL26402075, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: Tx; IEEE 802.11 a; UNII-1; 5240 MHz
 Test Date: 2021-07-20
 Note: EUT horizontal

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RadiMation

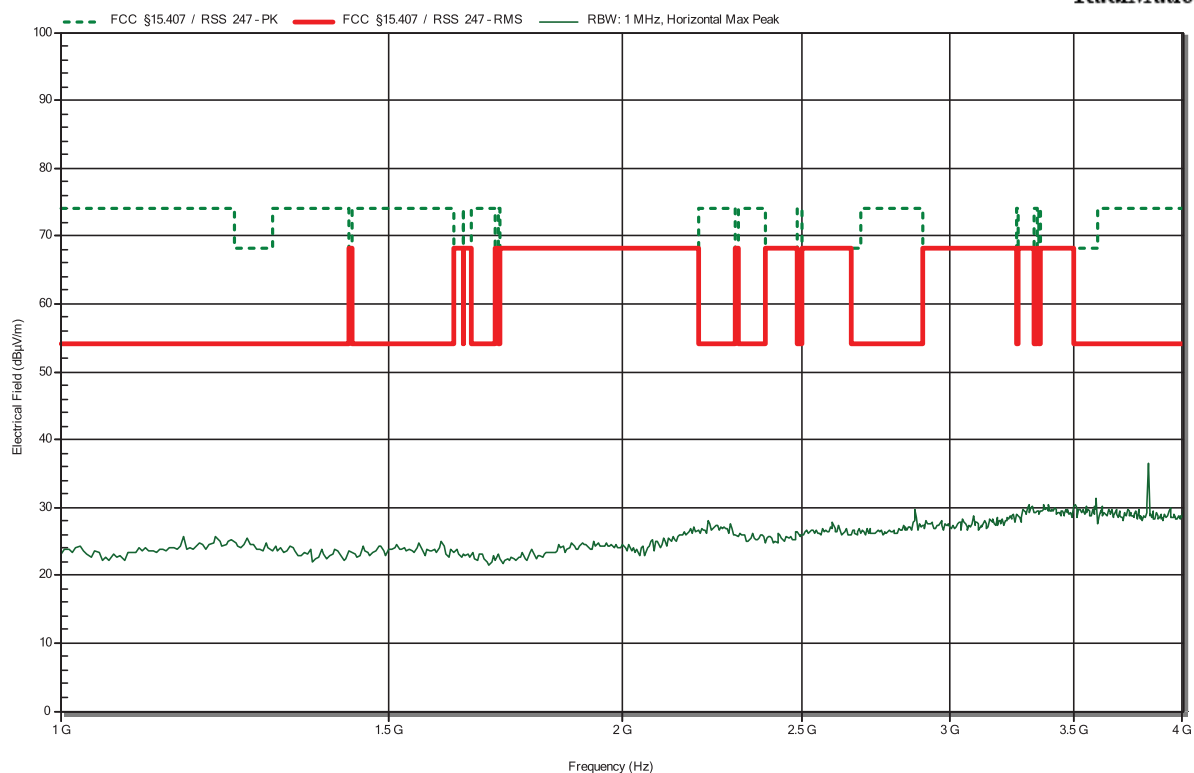


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 Operator: Wilfried Treffke
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

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RadiMation

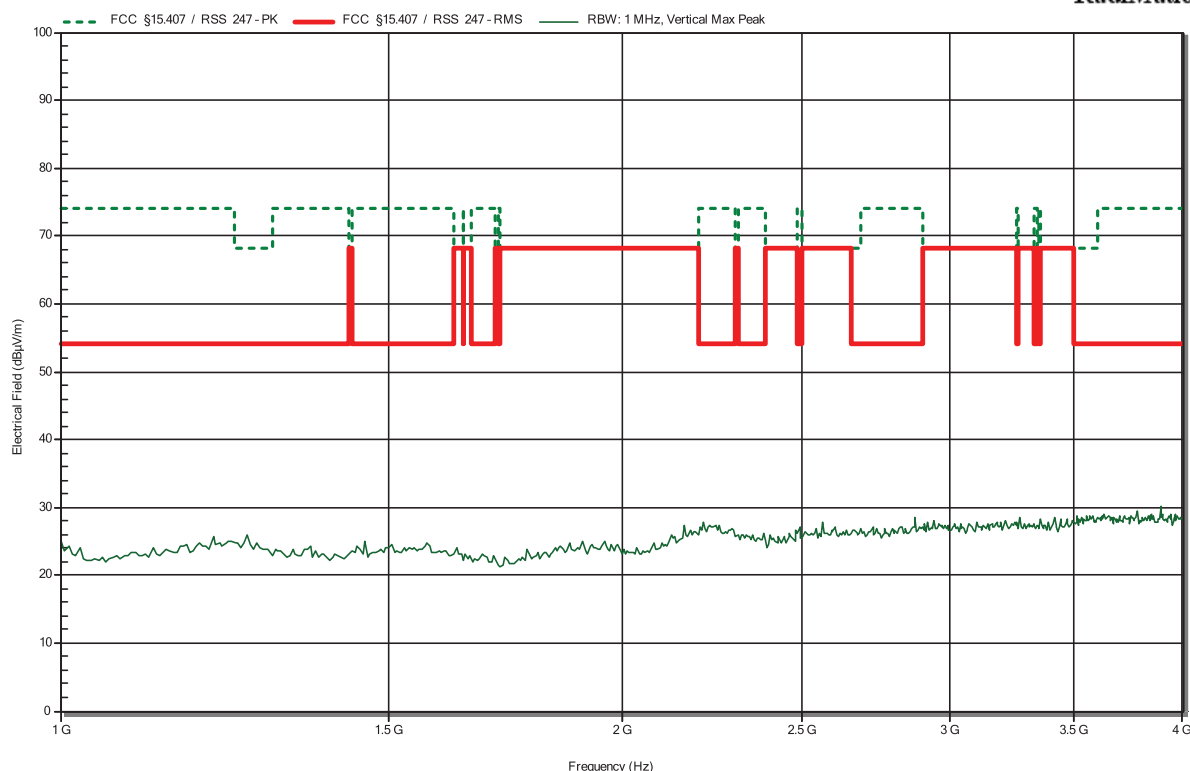


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

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RadiMation

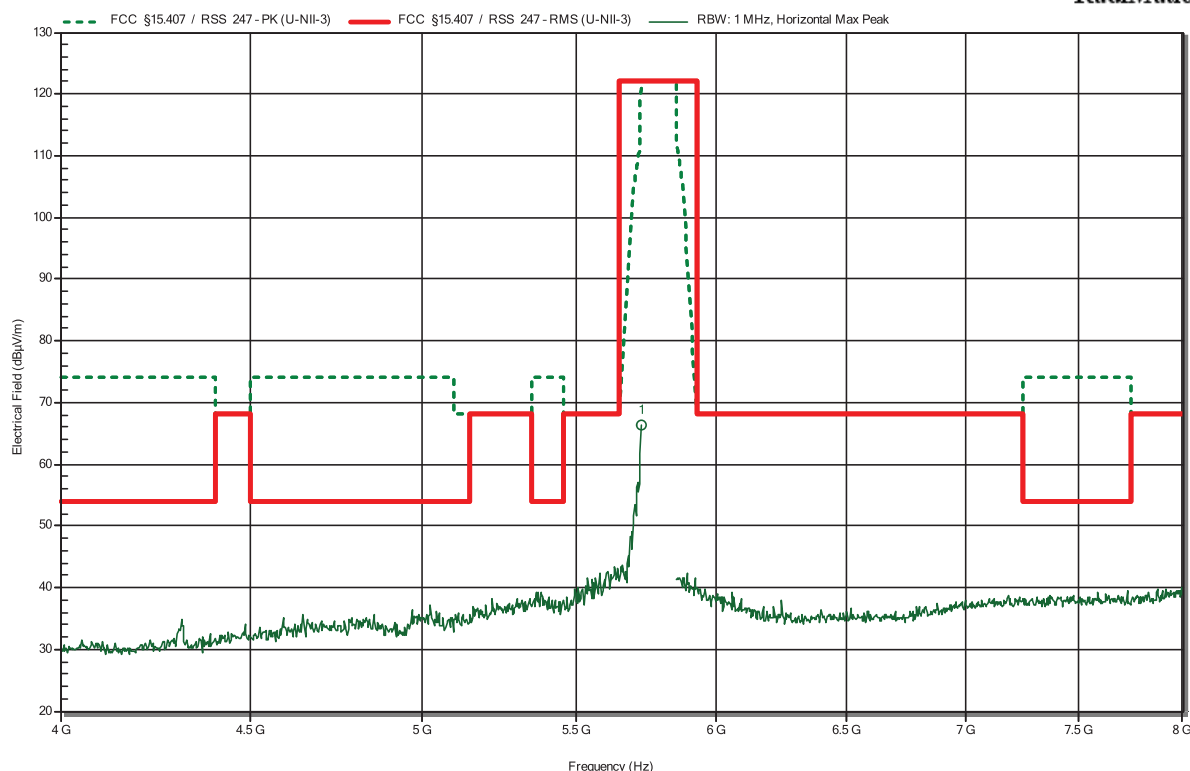


Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
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 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

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Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.725 GHz	66.37 dBμV/m	122 dBμV/m	-55.63 dB	Pass

Test Report No.: G0M-2101-9569-TFC407WF-V01

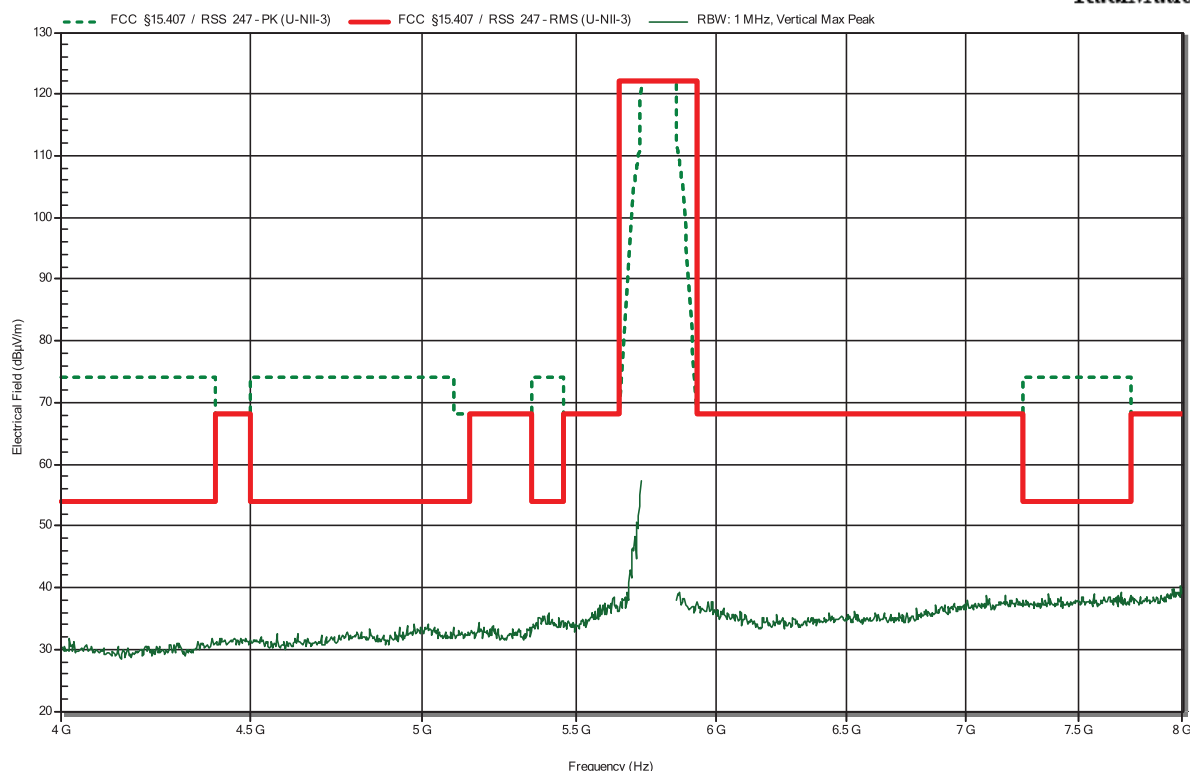
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to FCC 15.407

Project Number: G0M-2101-9569
 Applicant: Panasonic Industrial Devices Europe GmbH
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 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

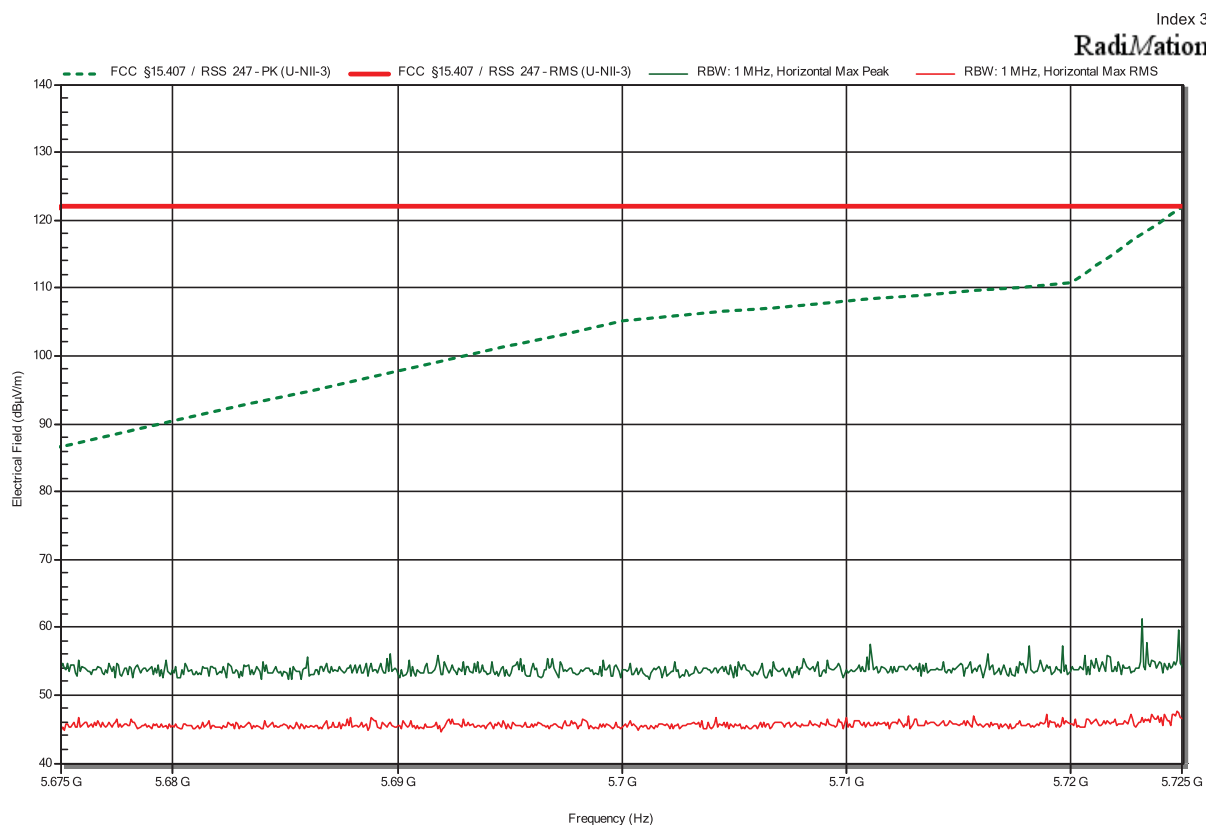
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RadiMation



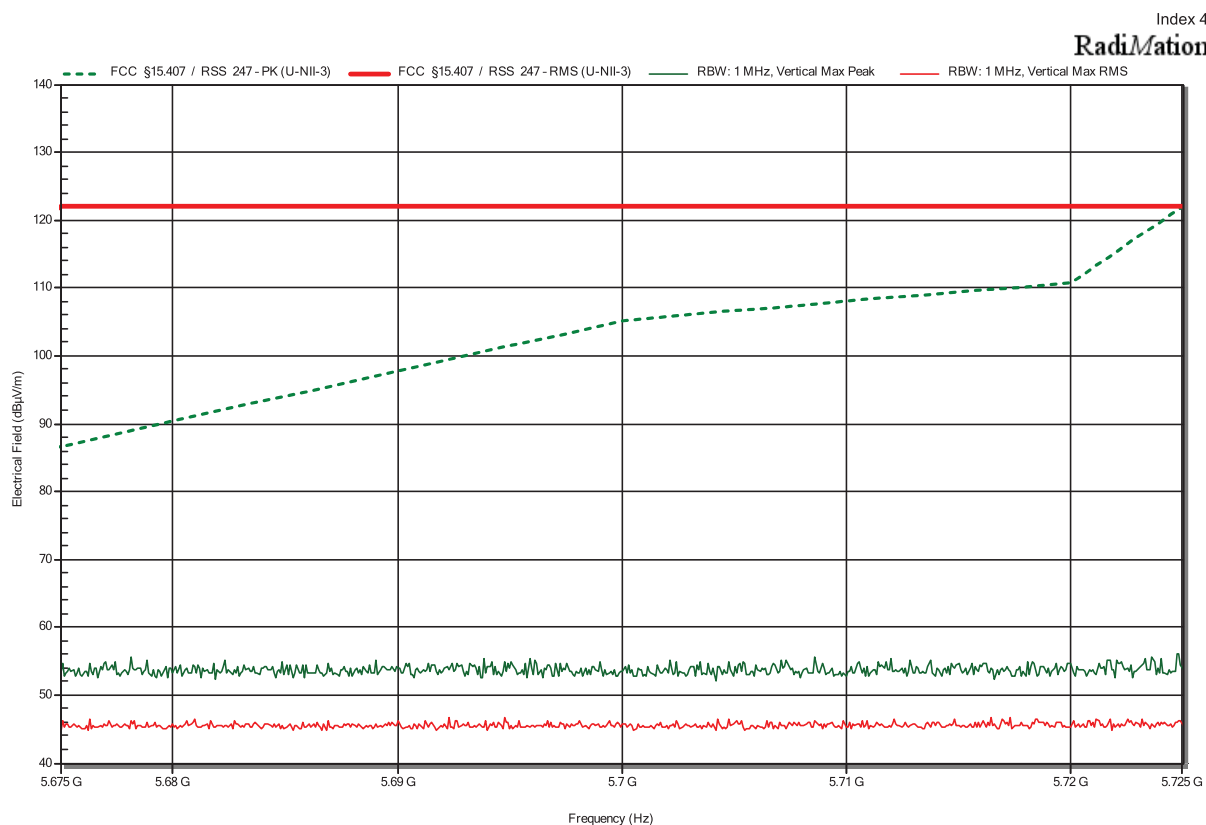
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 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: lower band area



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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: lower band area

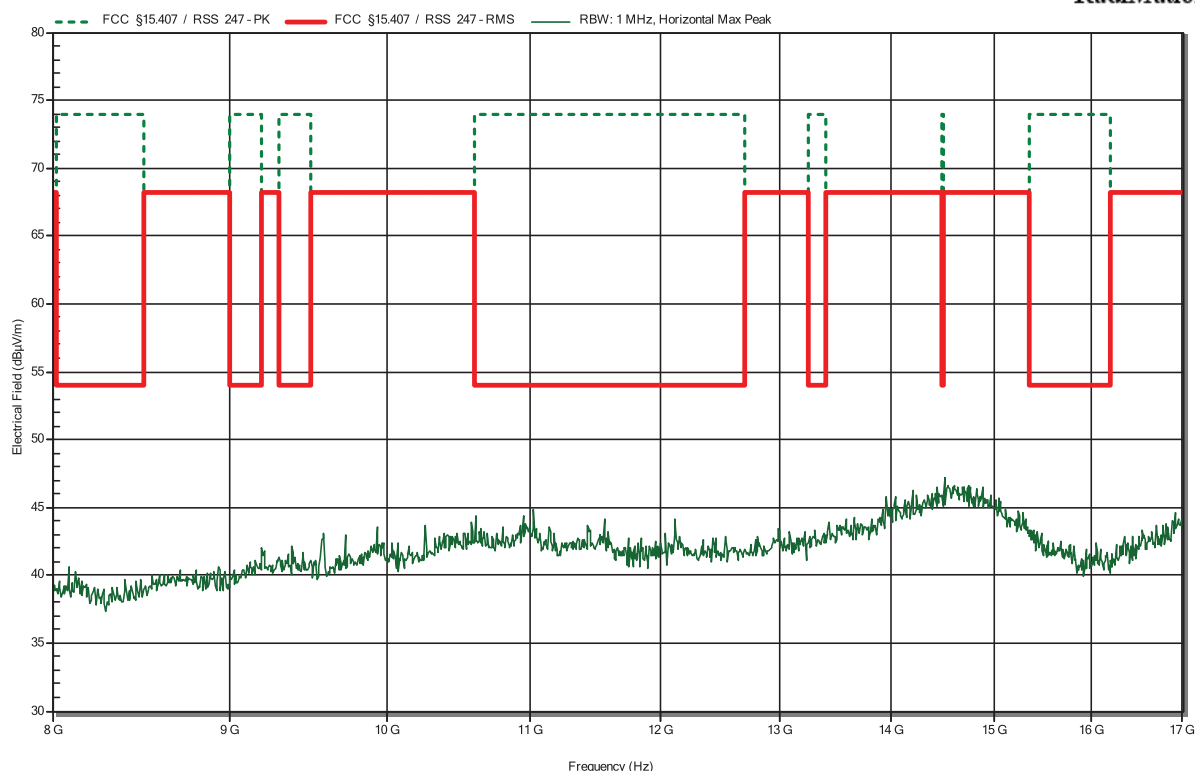


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 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

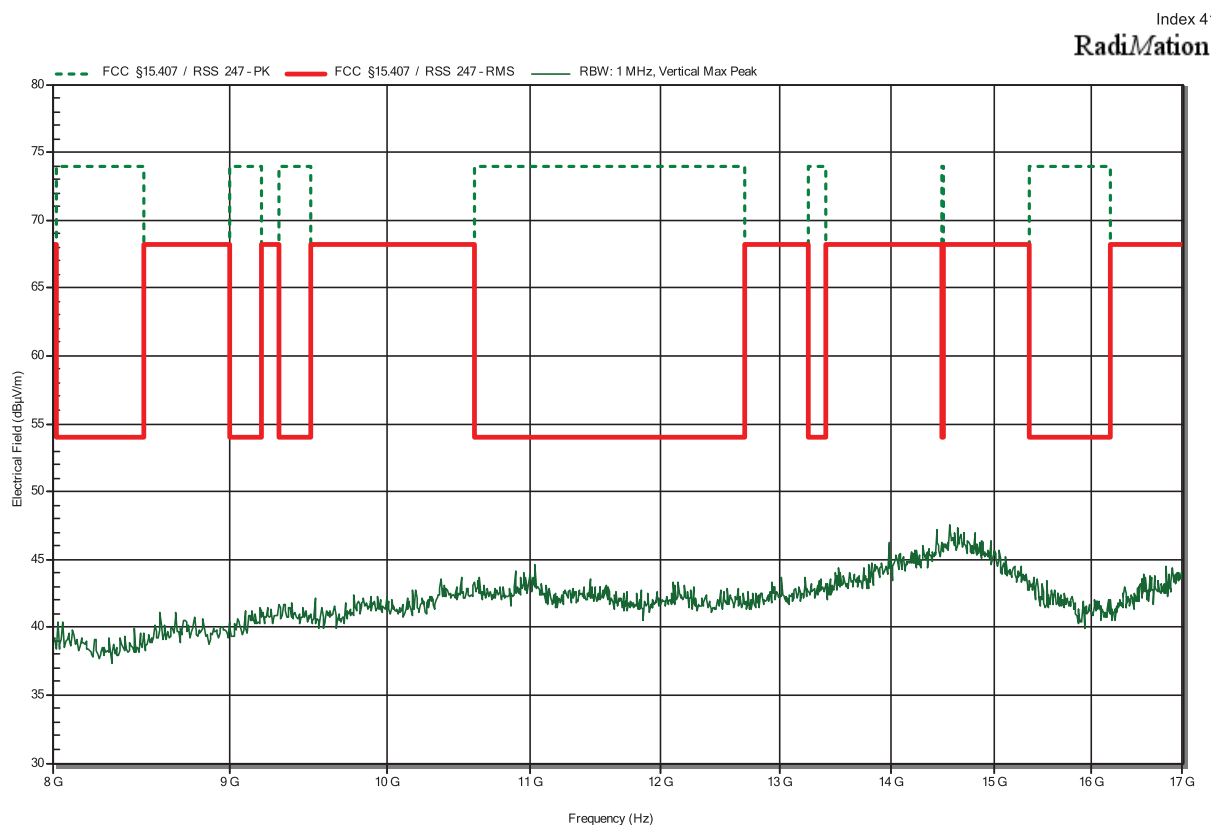
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Radiated Spurious Emissions according to FCC 15.407

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 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

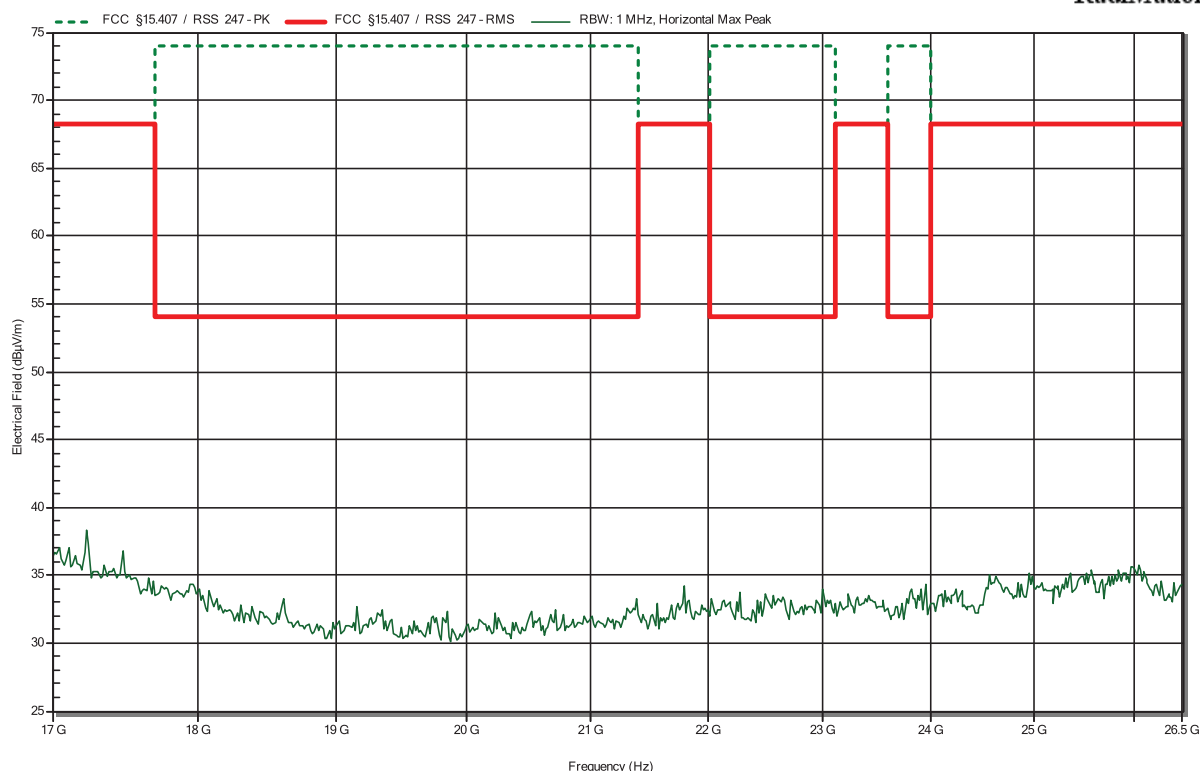


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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Amplifier Research AT4560, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

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RadiMation

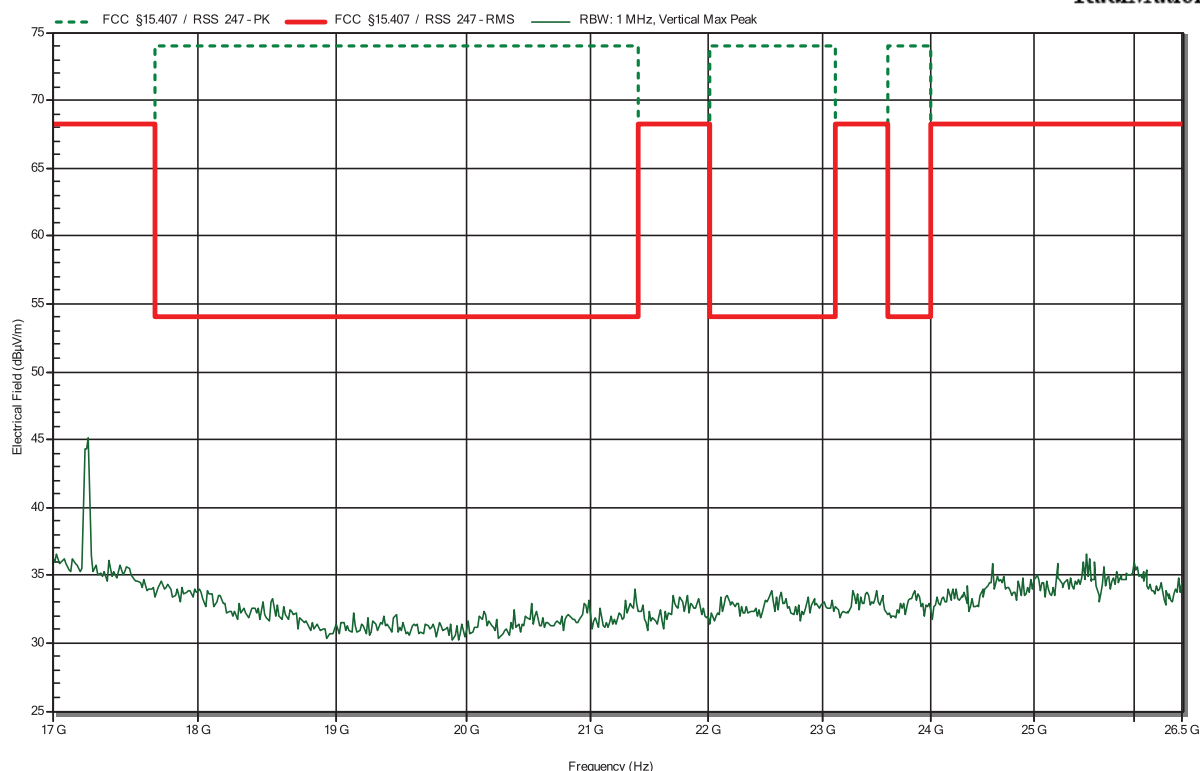


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 Antenna: Amplifier Research AT4560, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

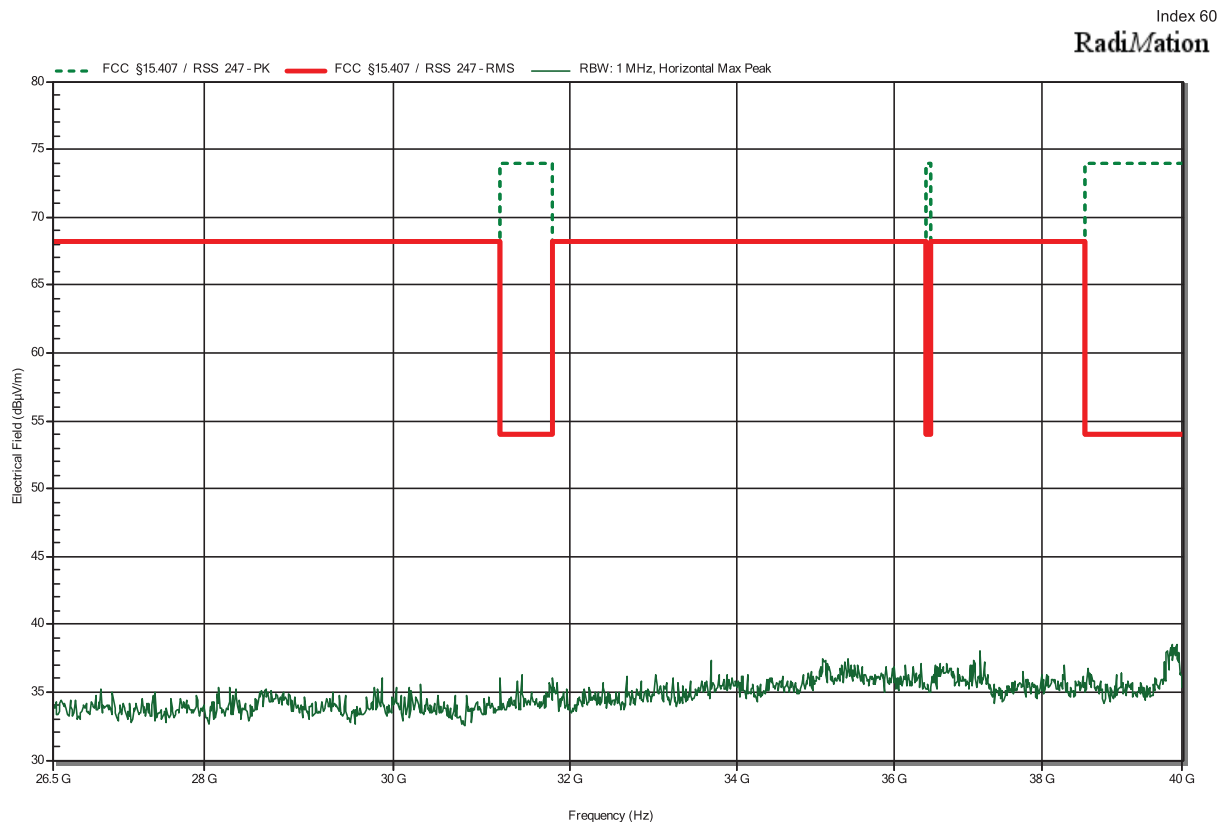
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Radiated Spurious Emissions according to FCC 15.407

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 Antenna: Flann Microwave Ltd 22240-25+CBL26402075, Horizontal
 Measurement distance: 1 m, converted to 3 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-20
 Note: EUT horizontal

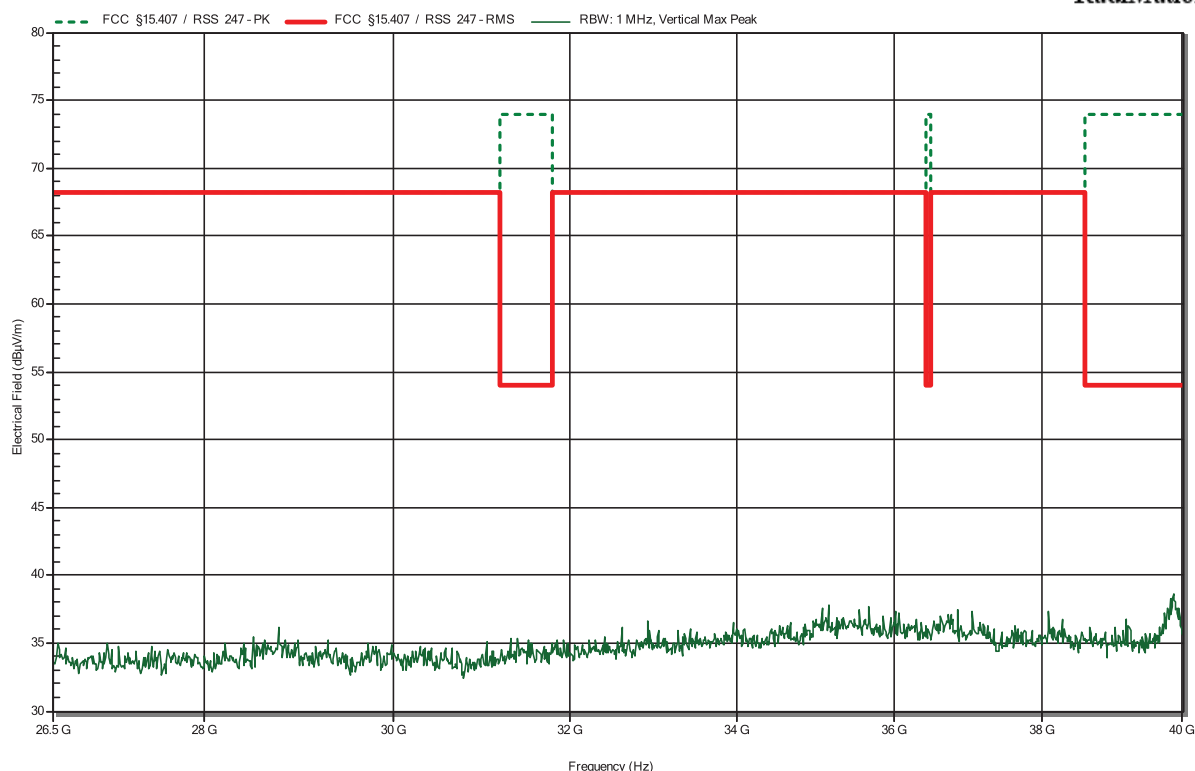


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 Measurement distance: 1 m, converted to 3 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5745 MHz
 Test Date: 2021-07-20
 Note: EUT horizontal

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RadiMation

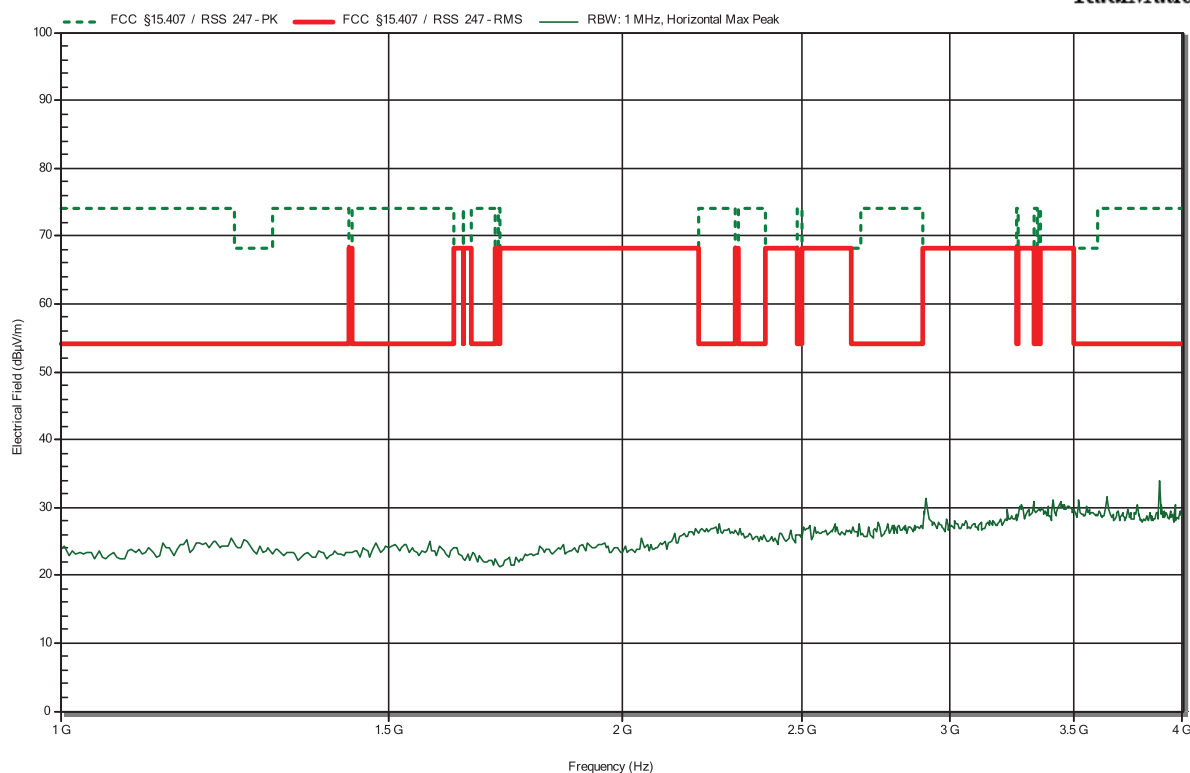


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 Operator: Wilfried Treffke
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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5825 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

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Radiated Spurious Emissions according to FCC 15.407

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 Test Site: Eurofins Product Service GmbH
 Operator: Wilfried Treffke
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 Test Conditions: Tnom: 24 °Celsius, Vnom: 3.3 V DC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11 a; U-NII-3; 5825 MHz
 Test Date: 2021-07-19
 Note: EUT horizontal

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