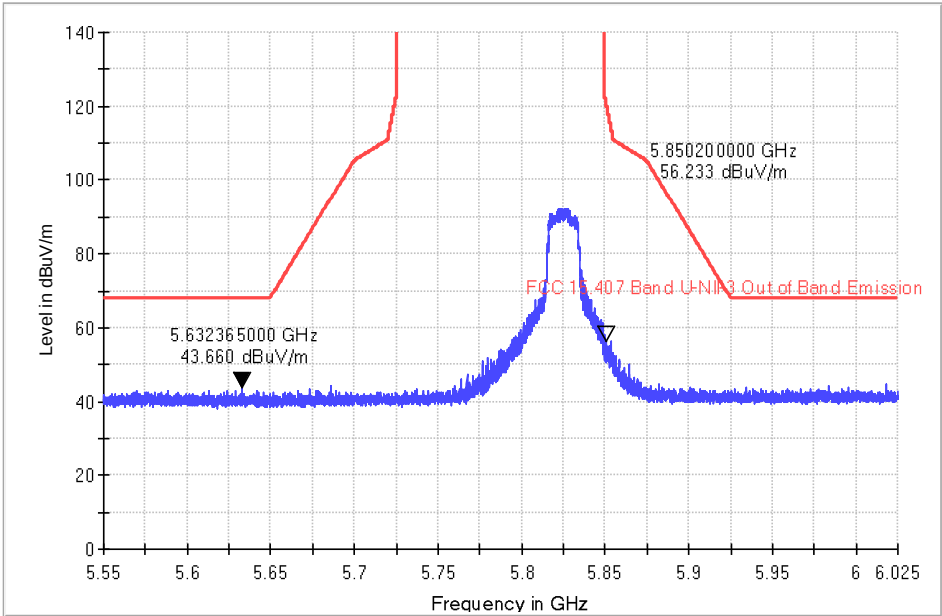




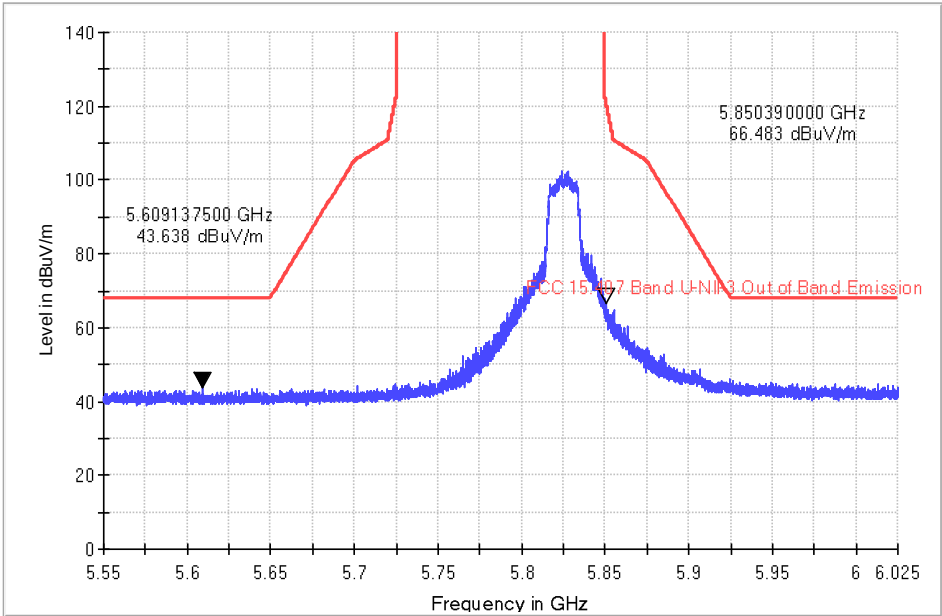
802.11ac20: CH 5825MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

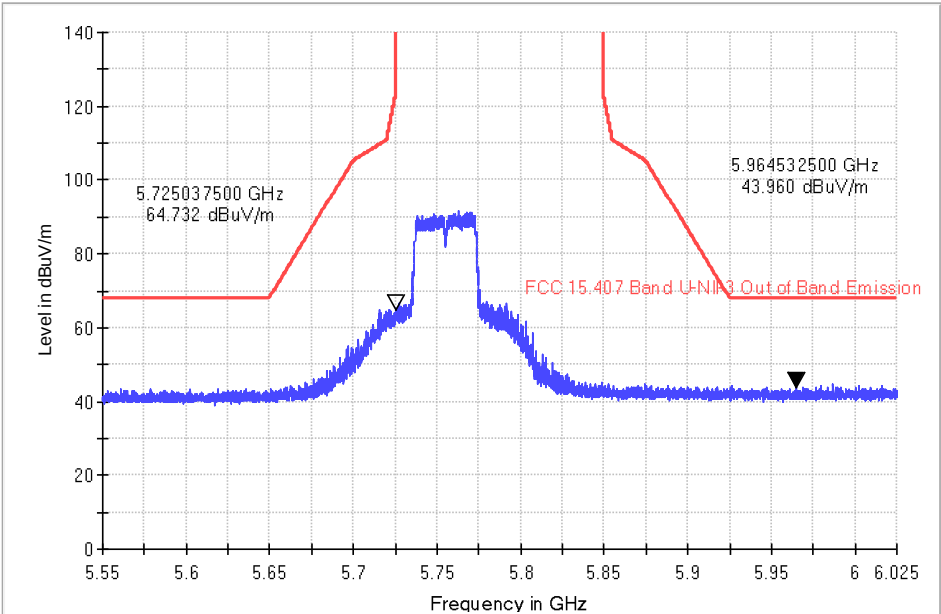
FCC 15.407 U-NII Out of Band Emission





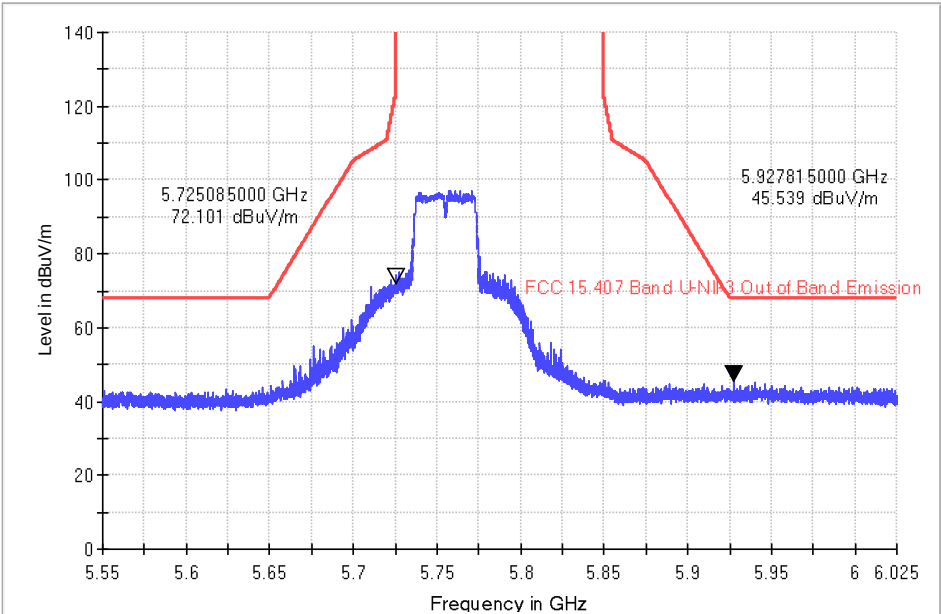
802.11ac40: CH 5755MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

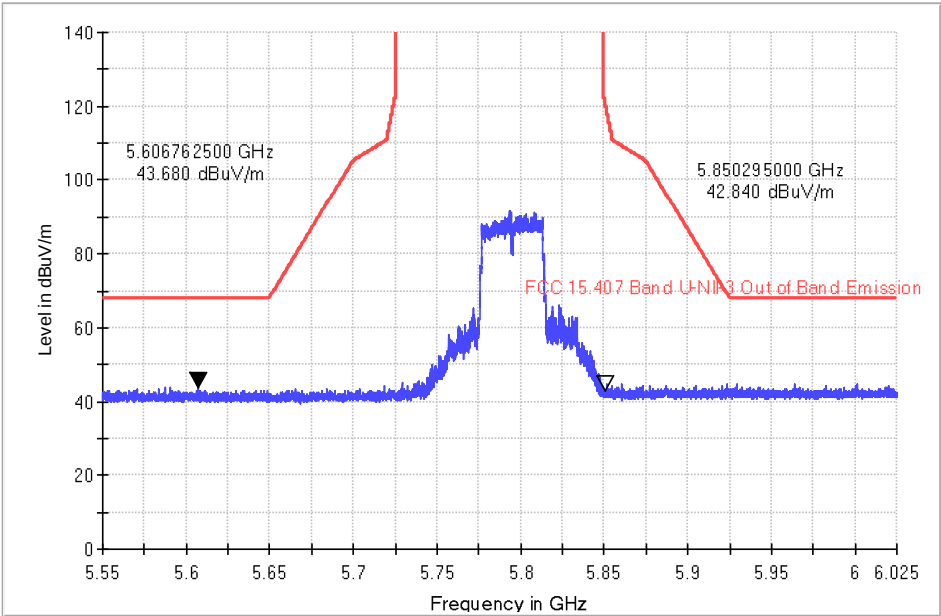
FCC 15.407 U-NII Out of Band Emission





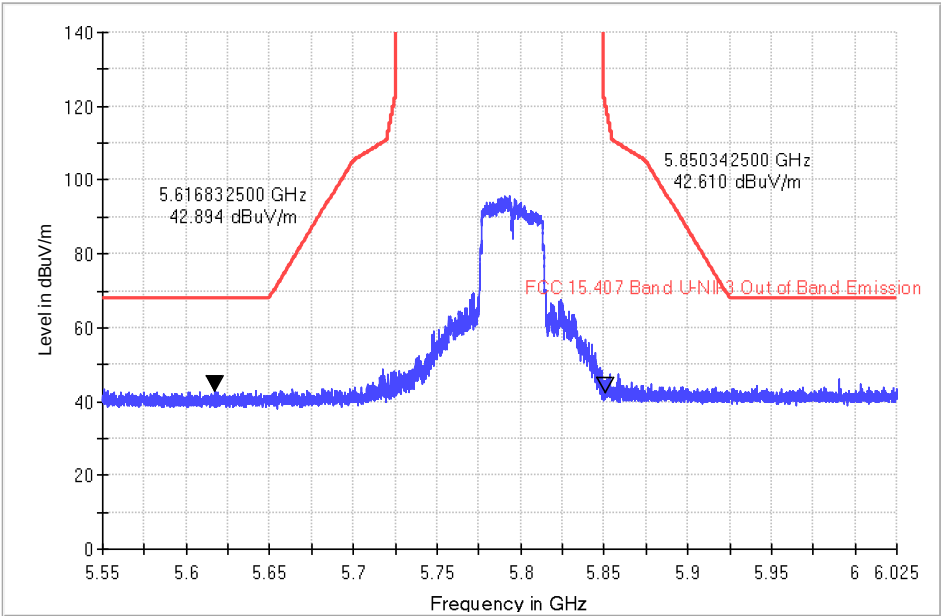
802.11ac40: CH 5795MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

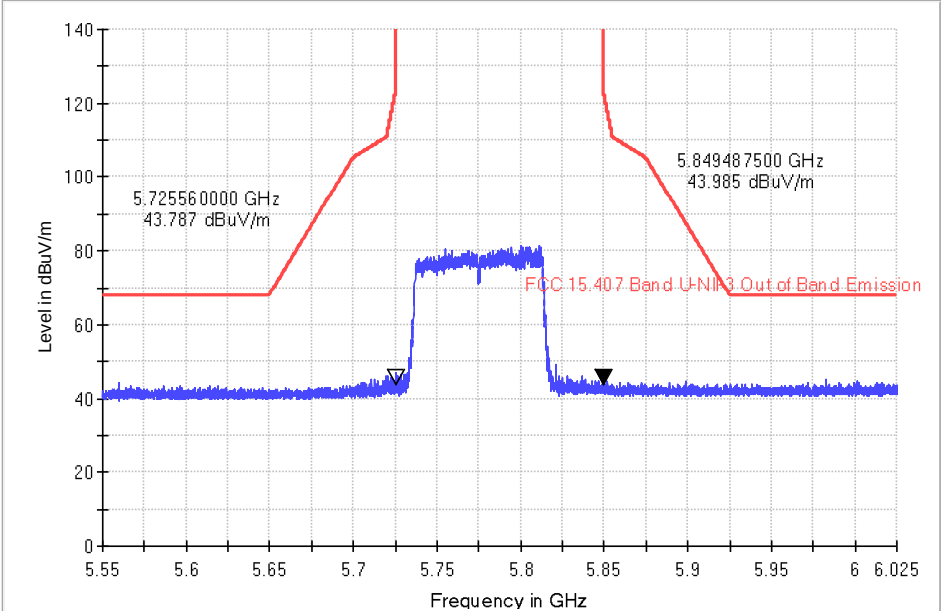
FCC 15.407 U-NII Out of Band Emission





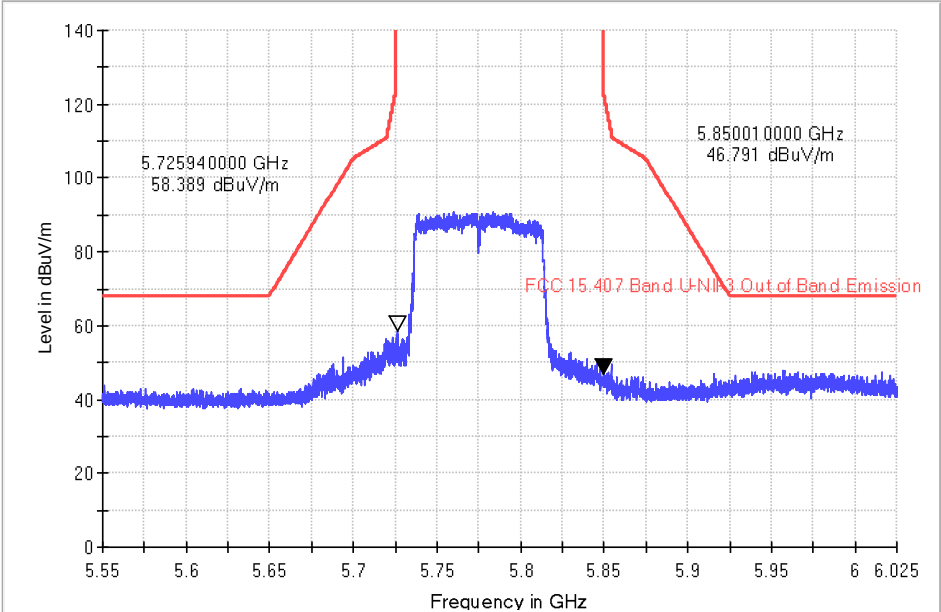
802.11ac80: CH 5775MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

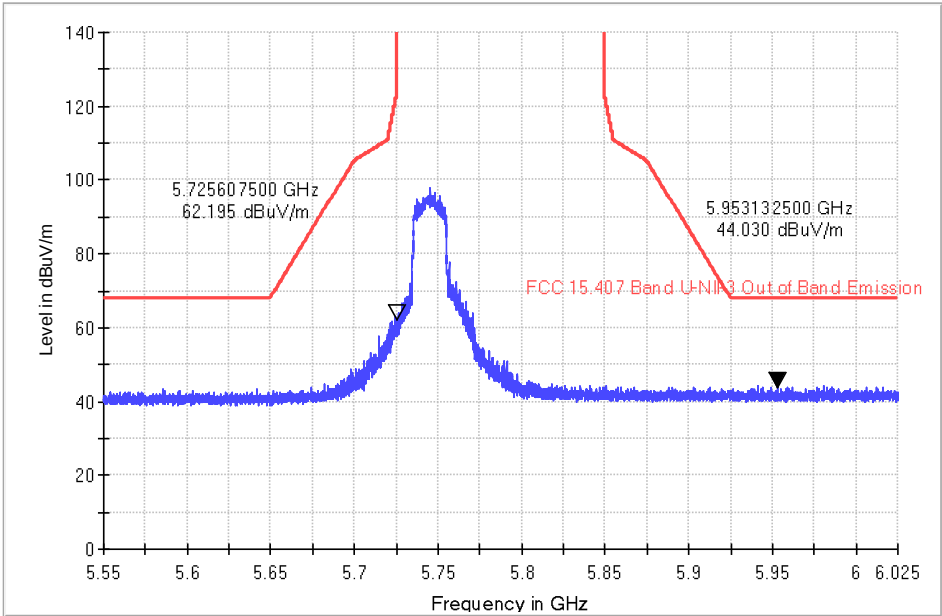
FCC 15.407 U-NII Out of Band Emission





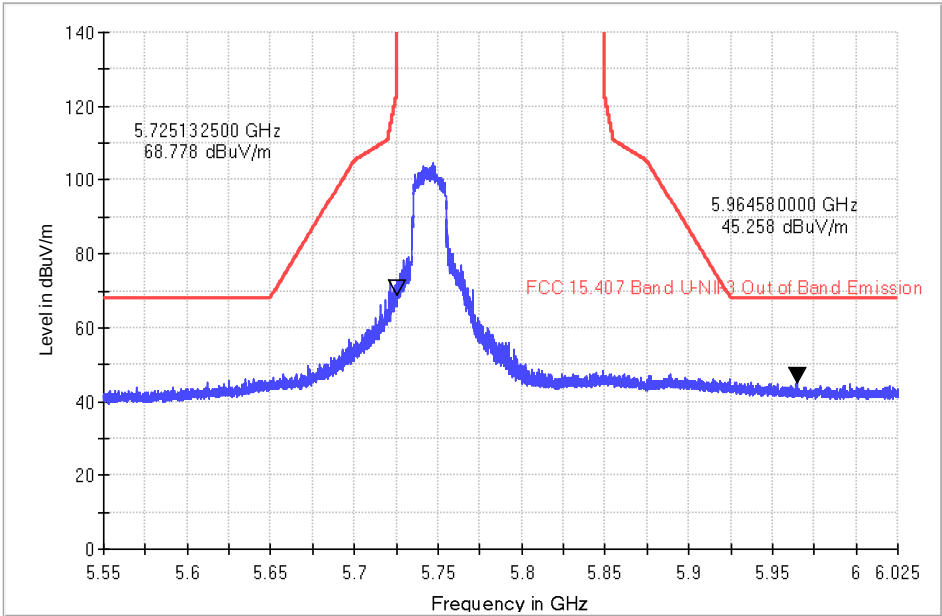
802.11ax20: CH 5745MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

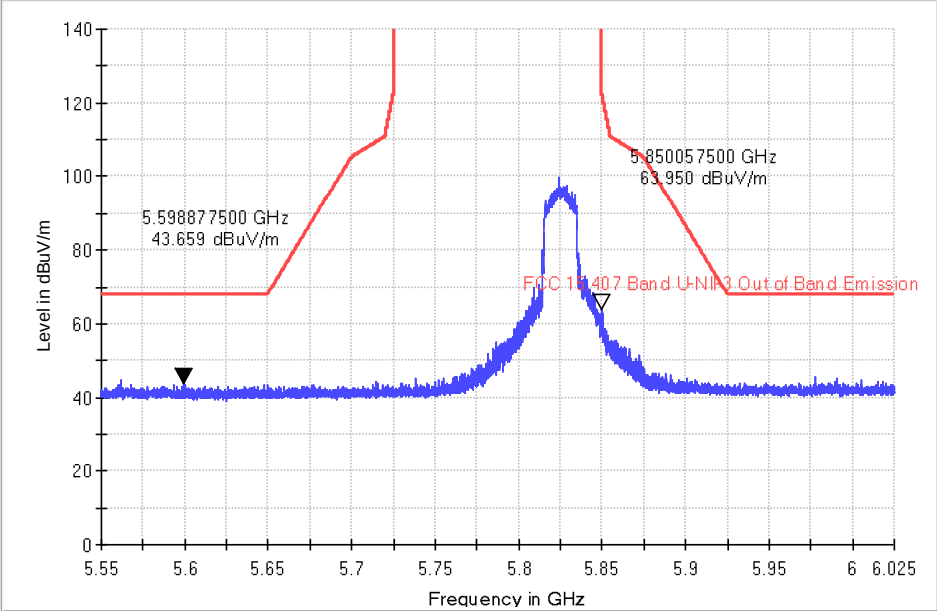
FCC 15.407 U-NII Out of Band Emission





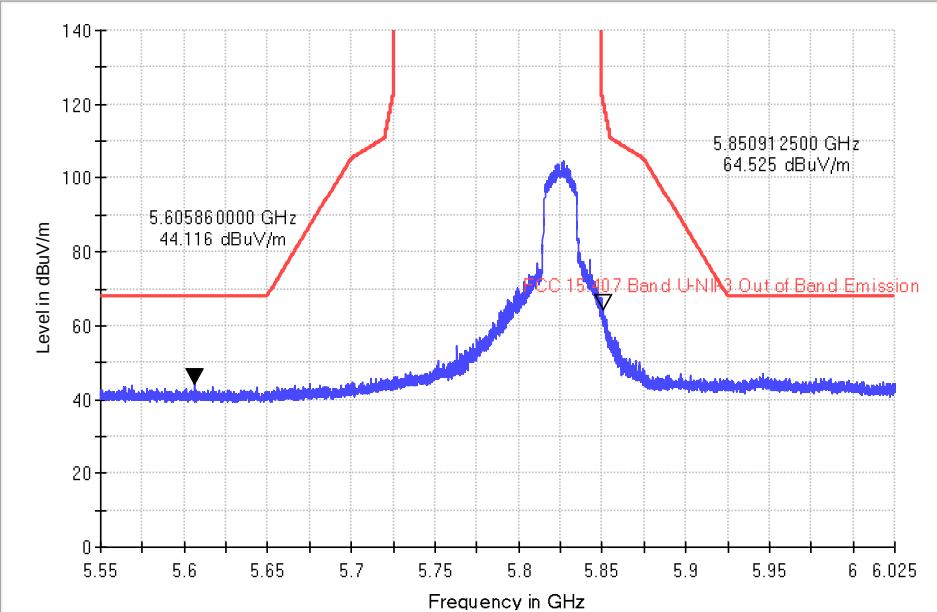
802.11ax20: CH 5825MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

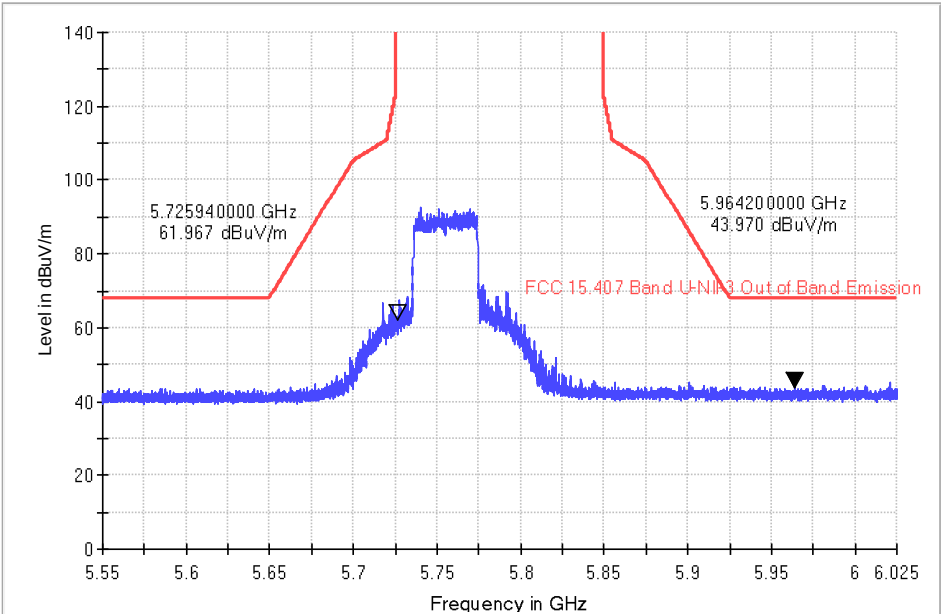
FCC 15.407 U-NII Out of Band Emission





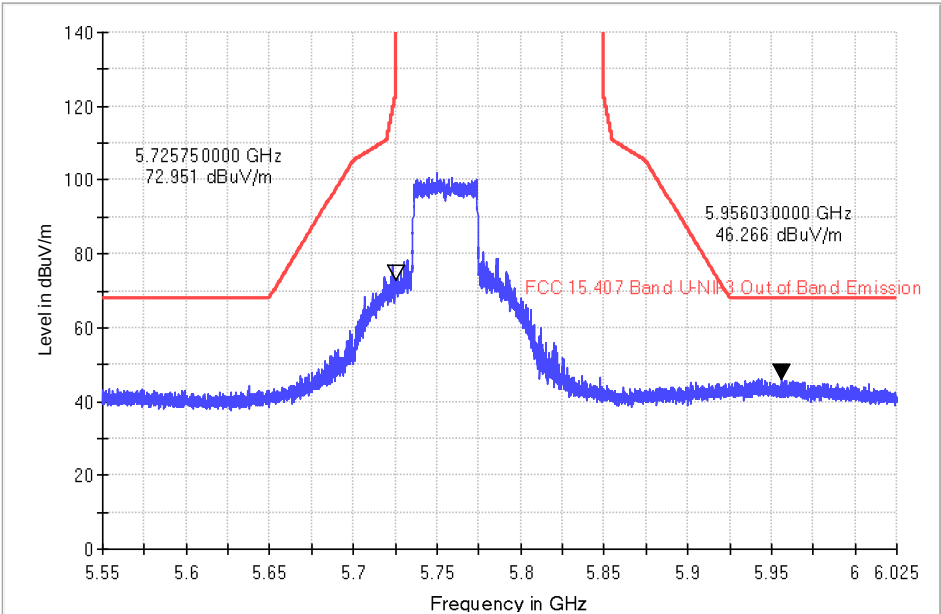
802.11ax40: CH 5755MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

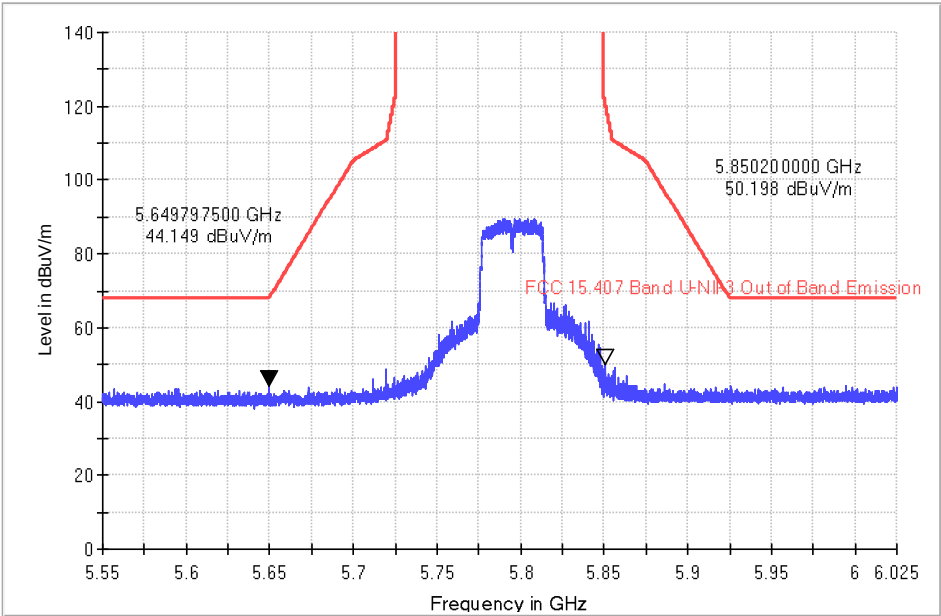
FCC 15.407 U-NII Out of Band Emission





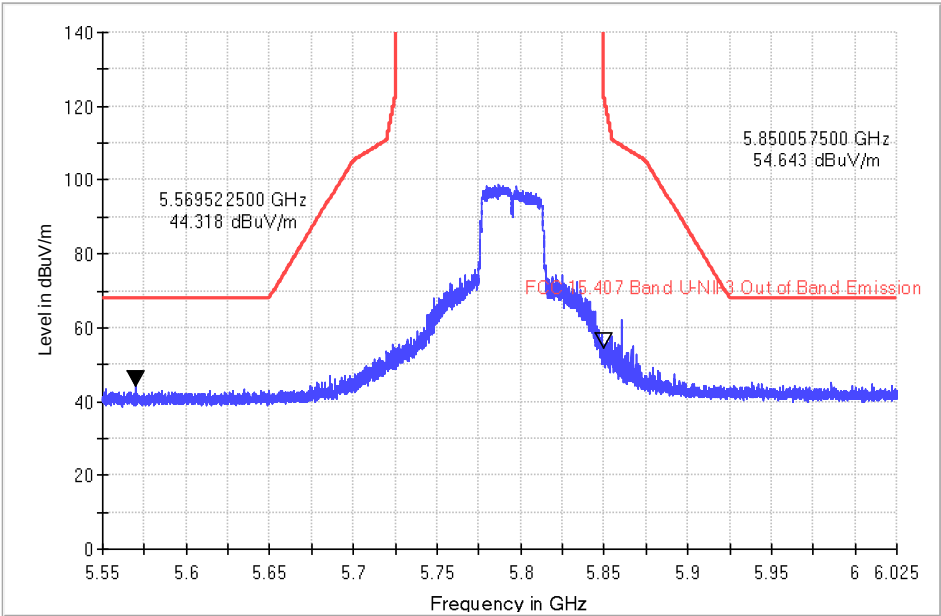
802.11ax40: CH 5795MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



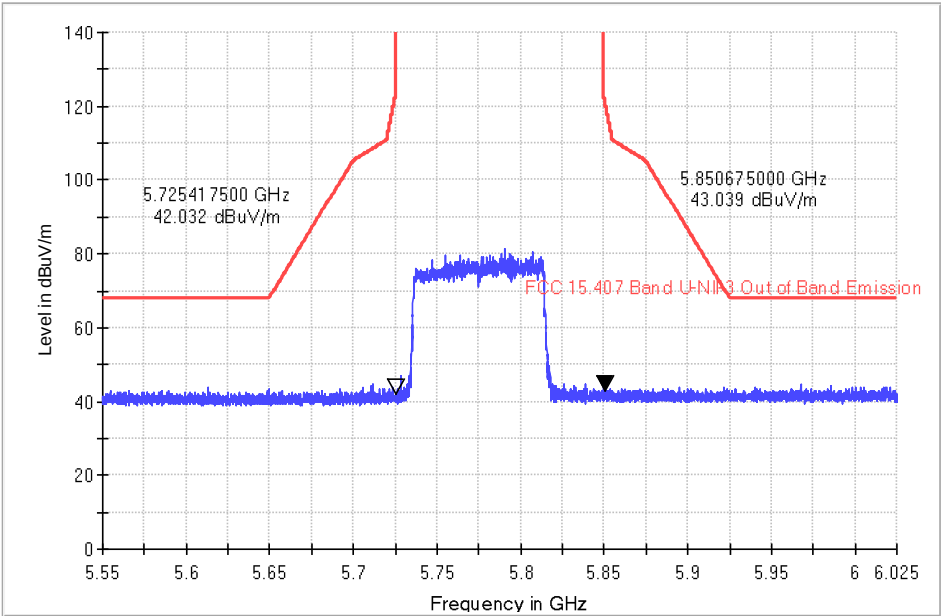
Vertical

FCC 15.407 U-NII Out of Band Emission



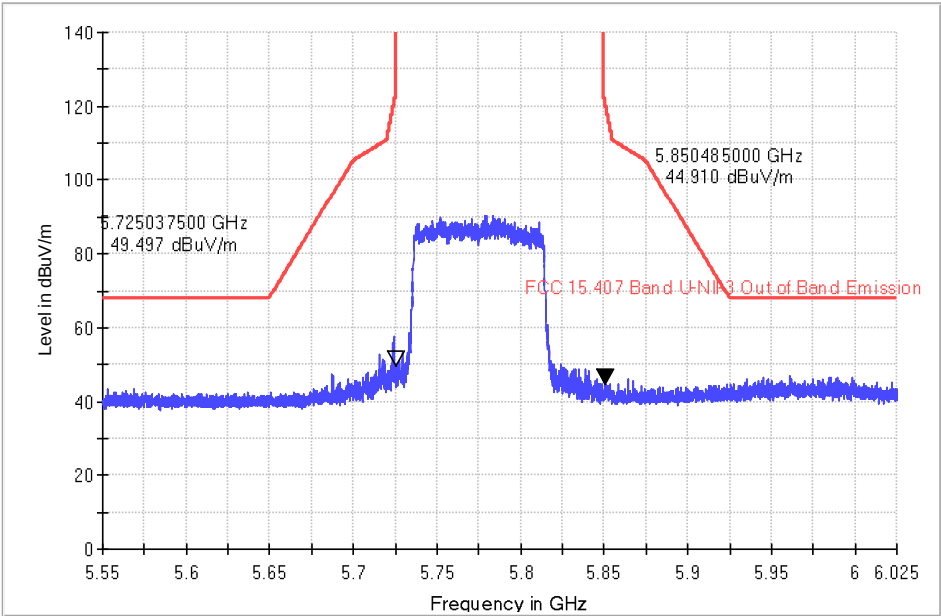
802.11ax80: CH 5775MHz SISO ANT1 Horizontal

FCC 15.407 U-NII Out of Band Emission



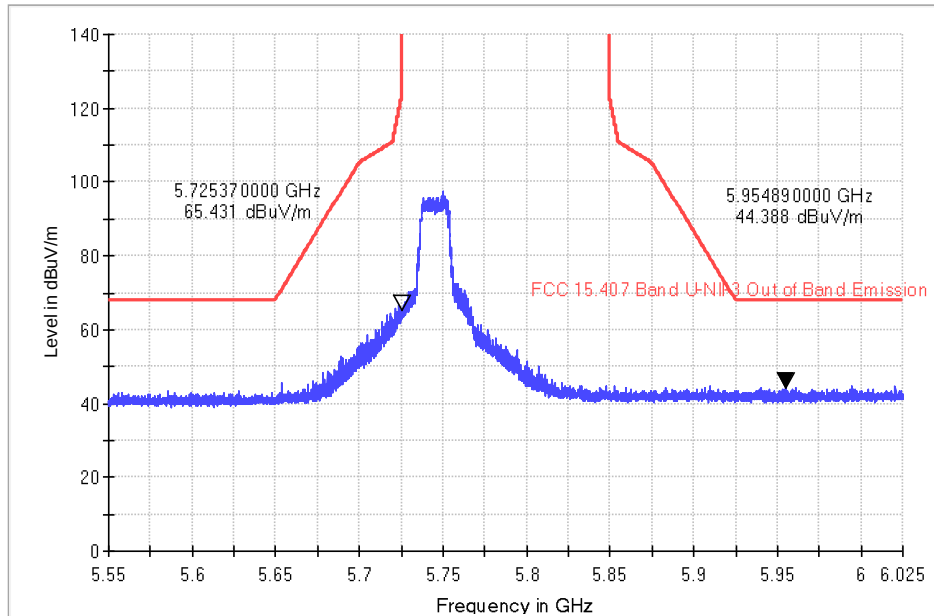
Vertical

FCC 15.407 U-NII Out of Band Emission



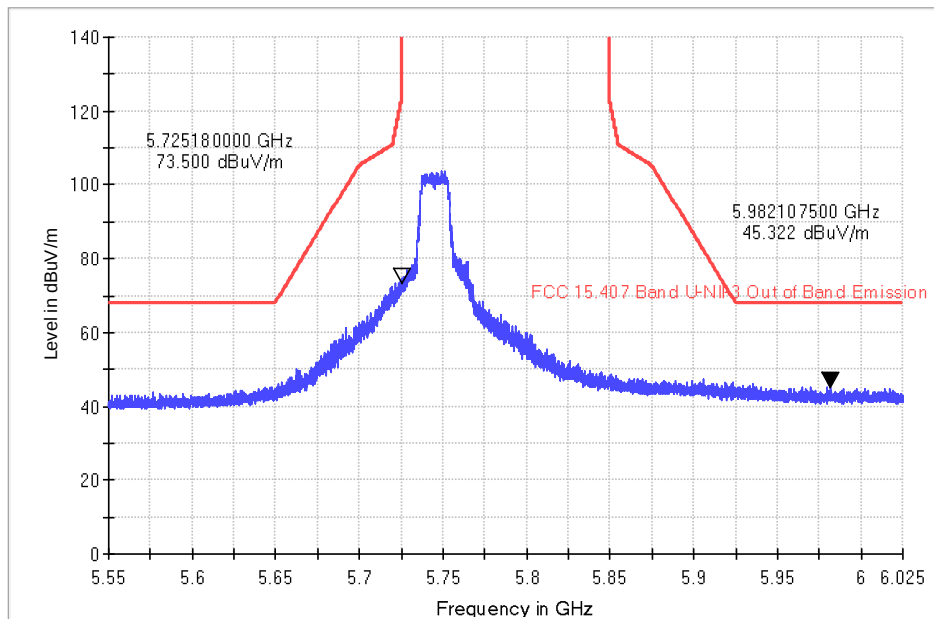
802.11a: CH 5745MHz SISO ANT2 Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

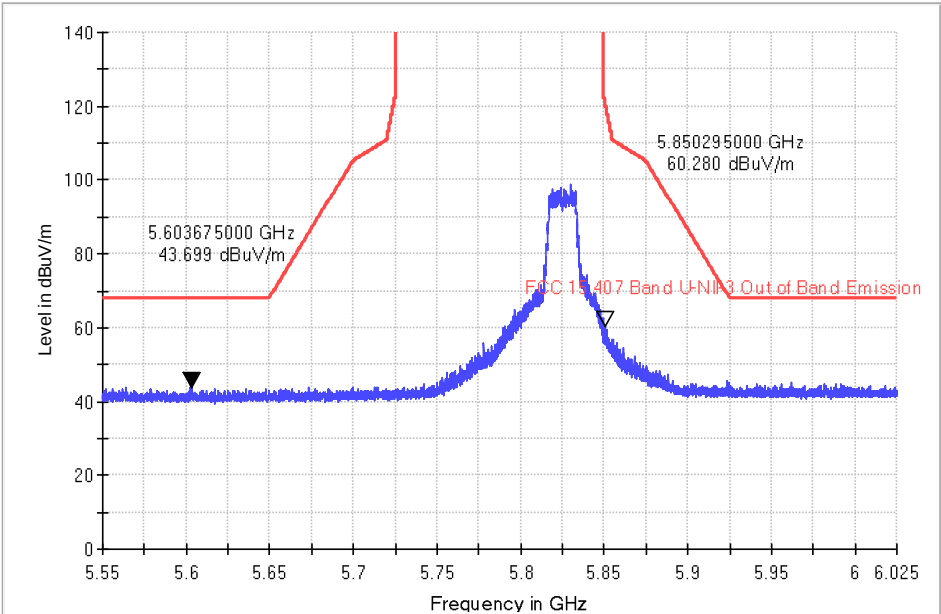
FCC 15.407 U-NII Out of Band Emission





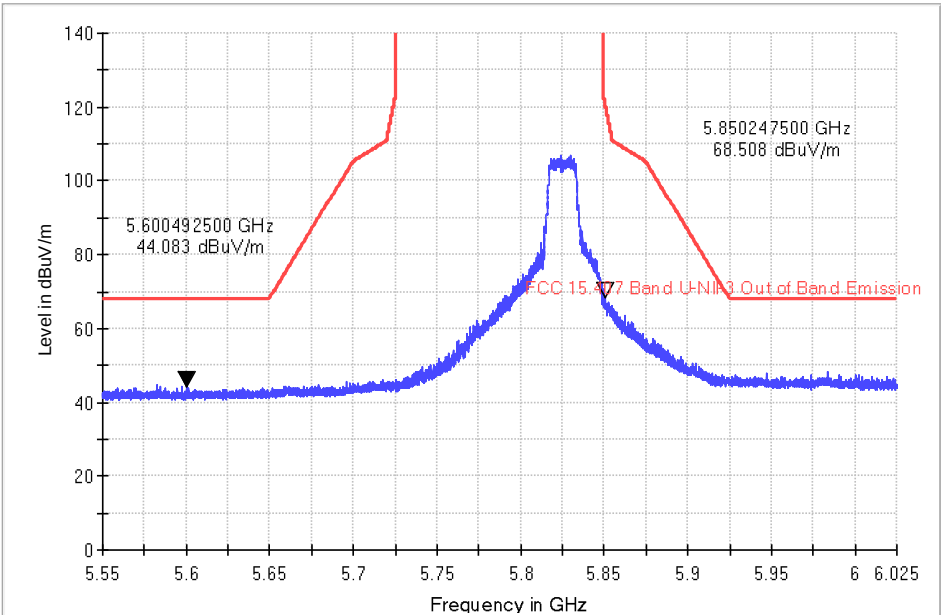
802.11a: CH 5825MHz SISO ANT2 Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

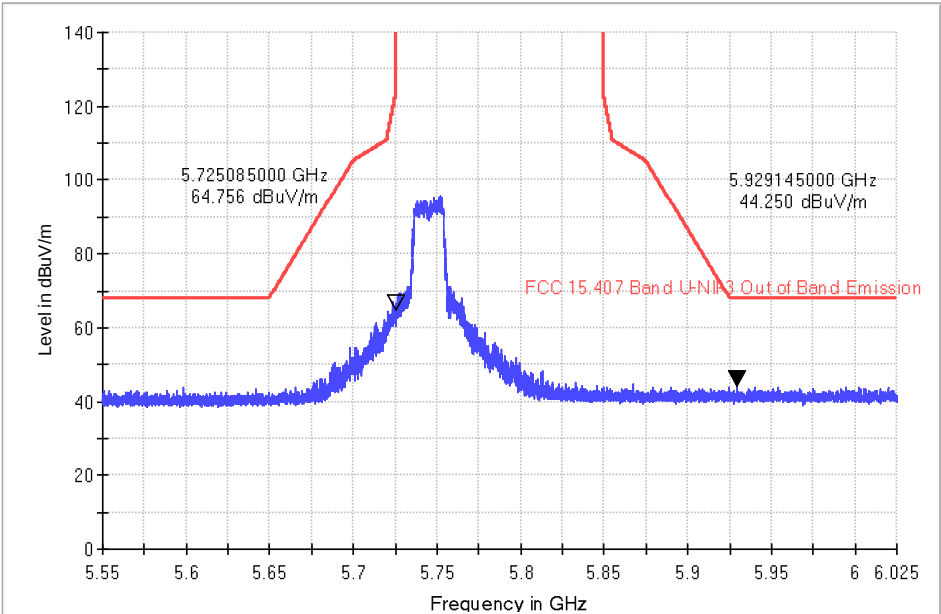
FCC 15.407 U-NII Out of Band Emission





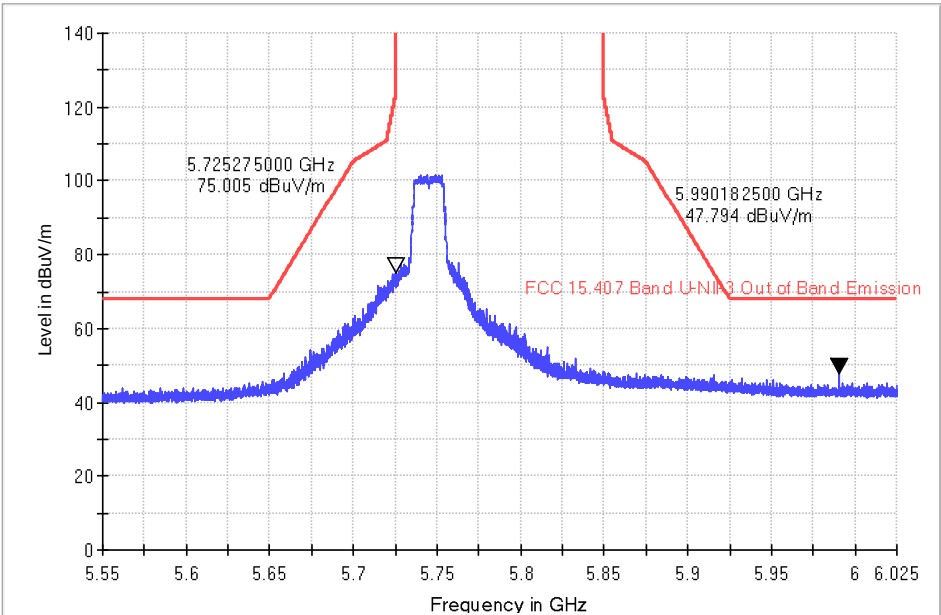
802.11n20: CH 5745MHz SISO ANT2 Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

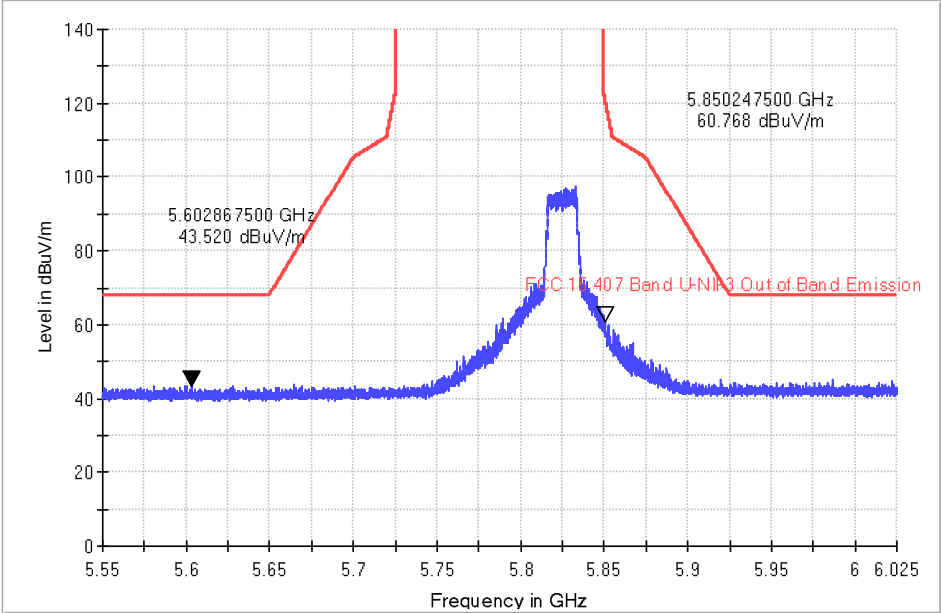
FCC 15.407 U-NII Out of Band Emission





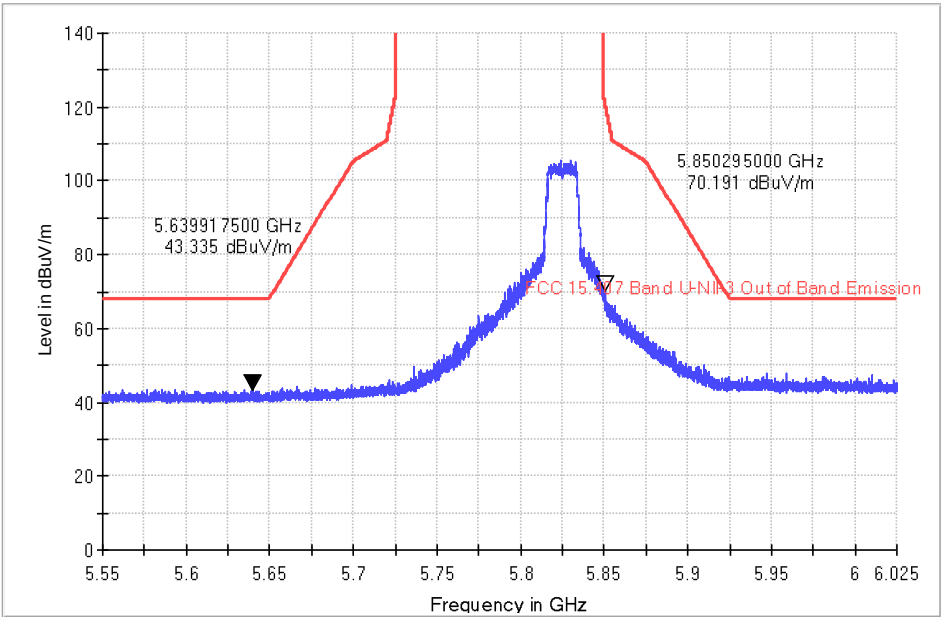
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FCC 15.407 U-NII Out of Band Emission



Vertical

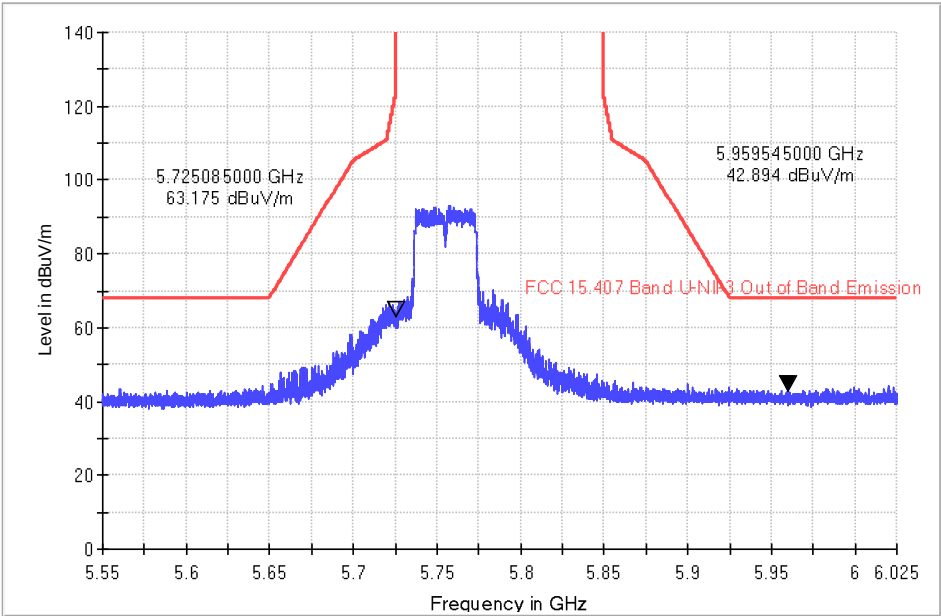
FCC 15.407 U-NII Out of Band Emission





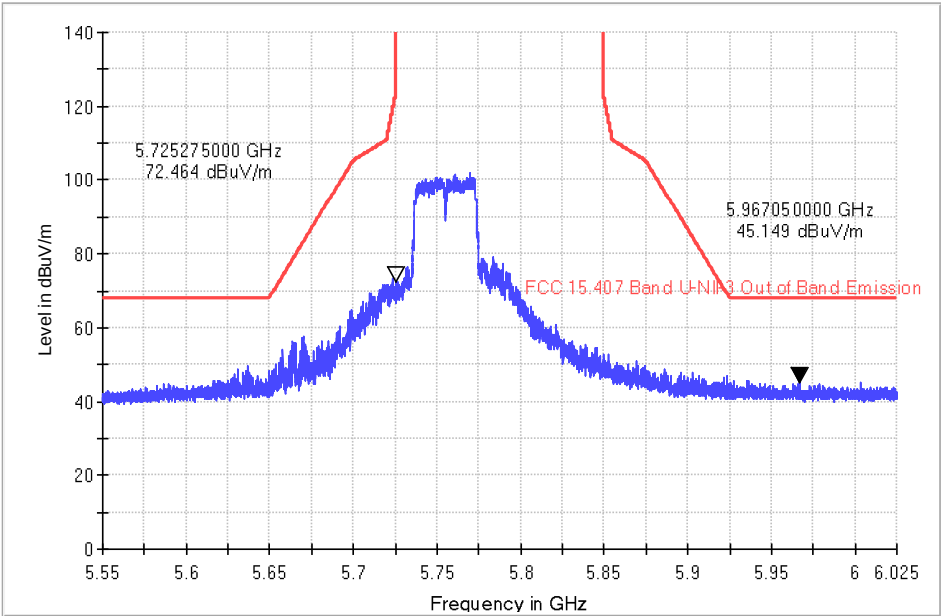
802.11n40: CH 5755MHz SISO ANT2
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

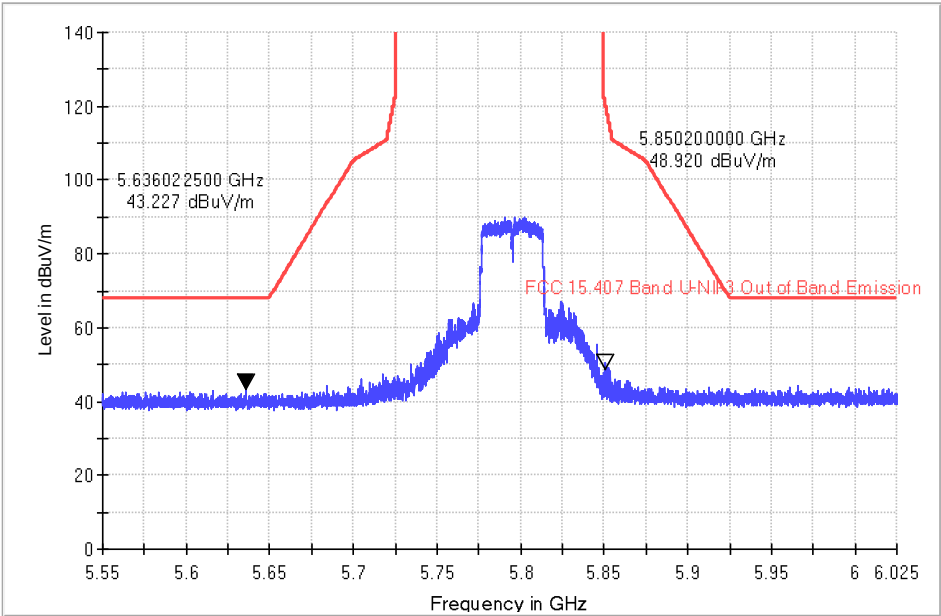
FCC 15.407 U-NII Out of Band Emission





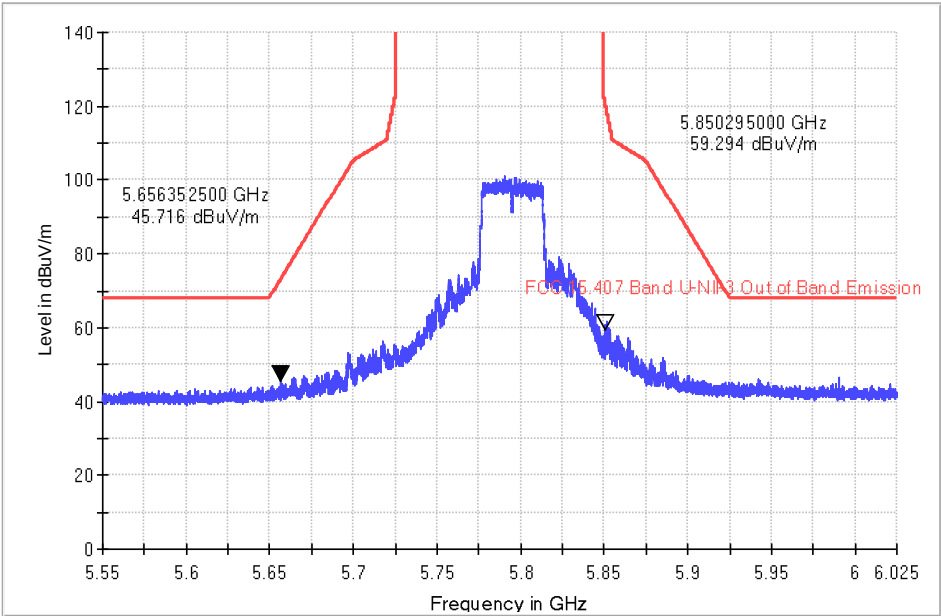
802.11n40: CH 5795MHz SISO ANT2
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

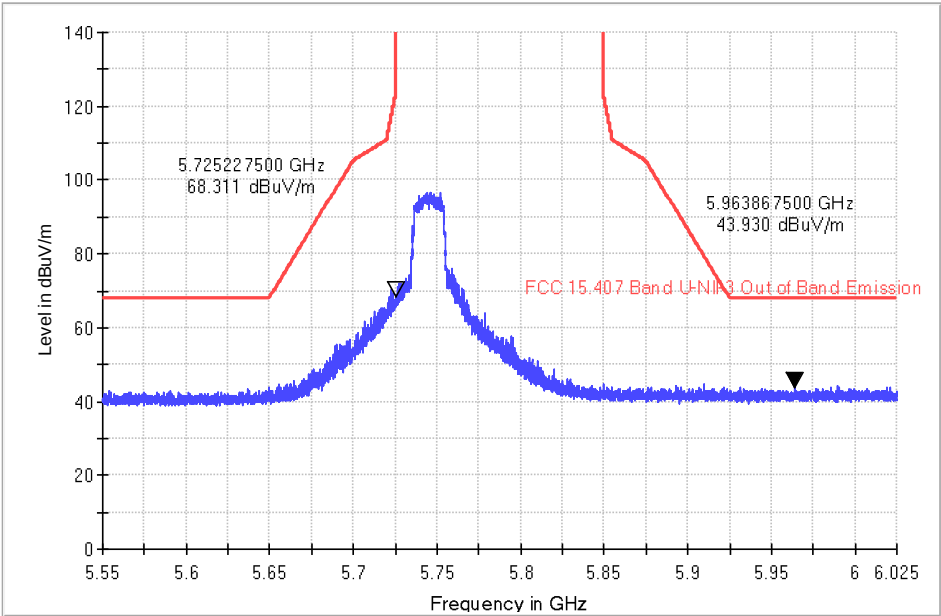
FCC 15.407 U-NII Out of Band Emission





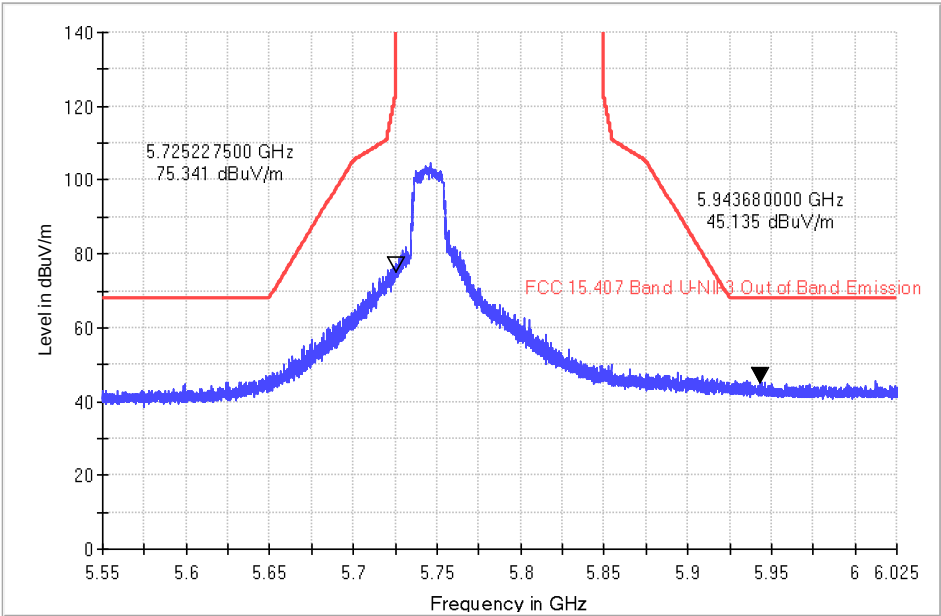
802.11ac20: CH 5745MHz SISO ANT2
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

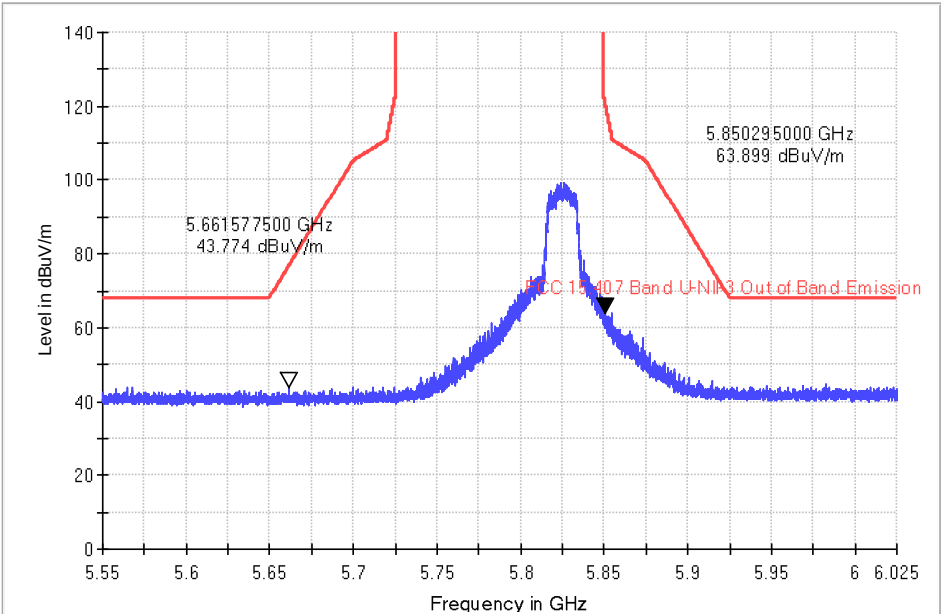
FCC 15.407 U-NII Out of Band Emission





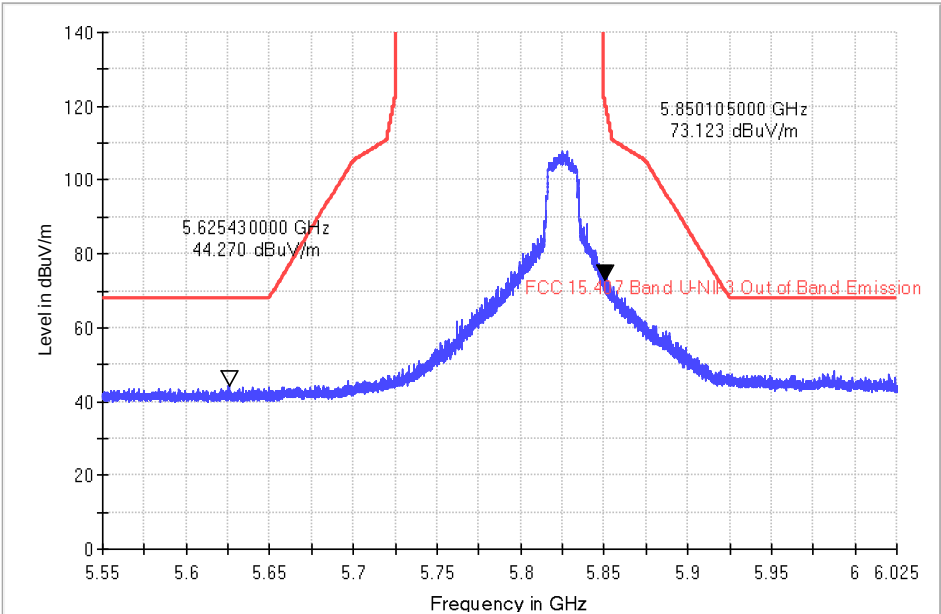
802.11ac20: CH 5825MHz SISO ANT2
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

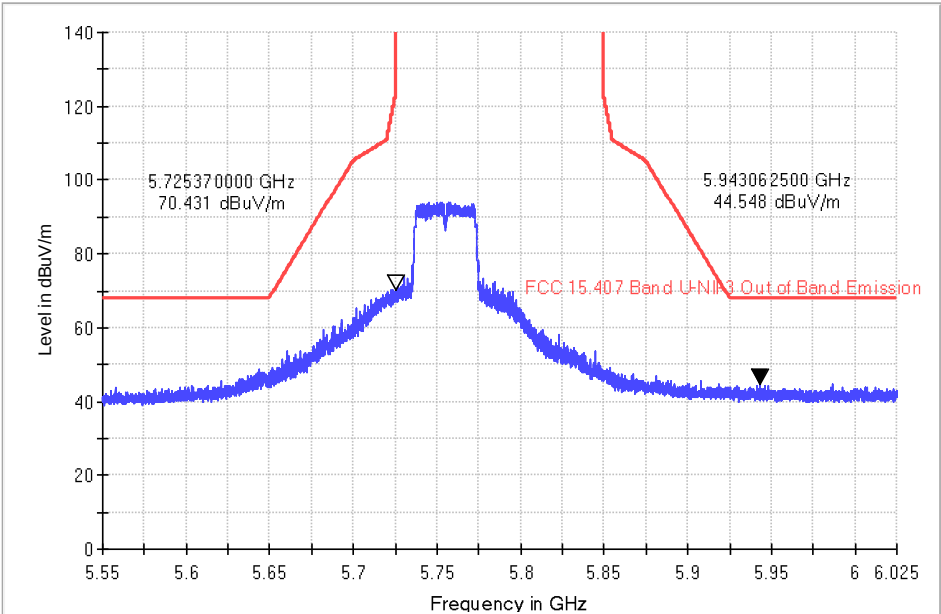
FCC 15.407 U-NII Out of Band Emission





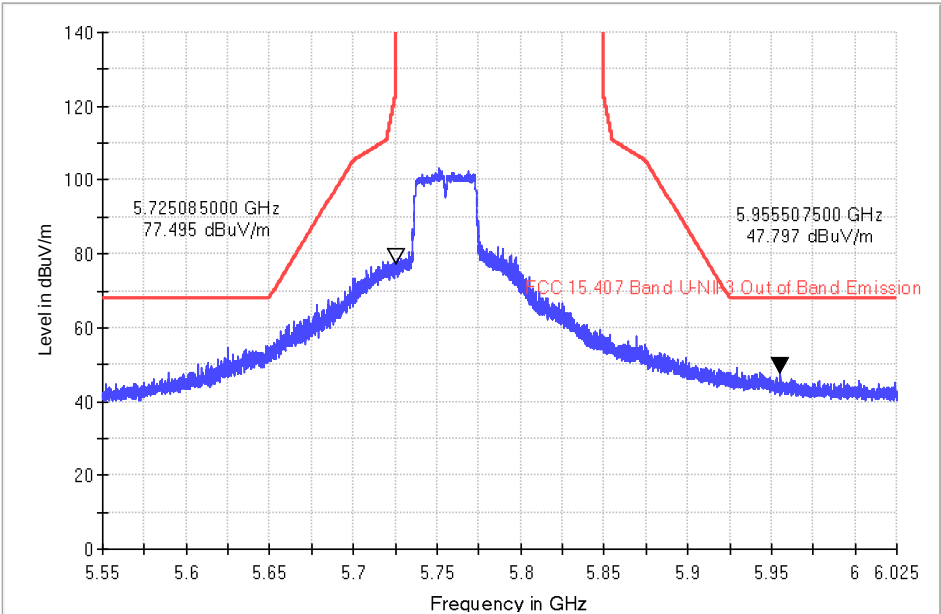
802.11ac40: CH 5755MHz SISO ANT2
Horizontal

FCC 15.407 U-NII Out of Band Emission



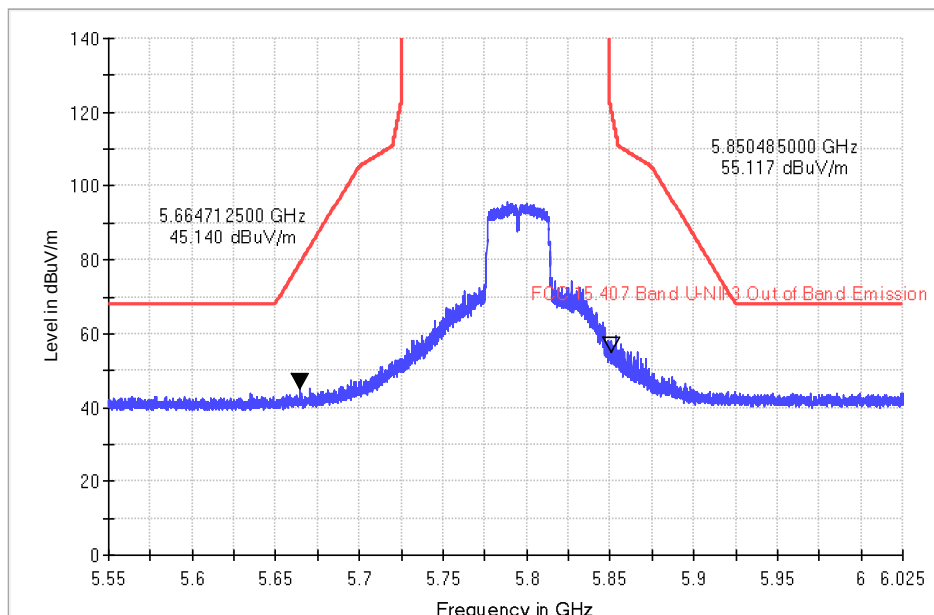
Vertical

FCC 15.407 U-NII Out of Band Emission



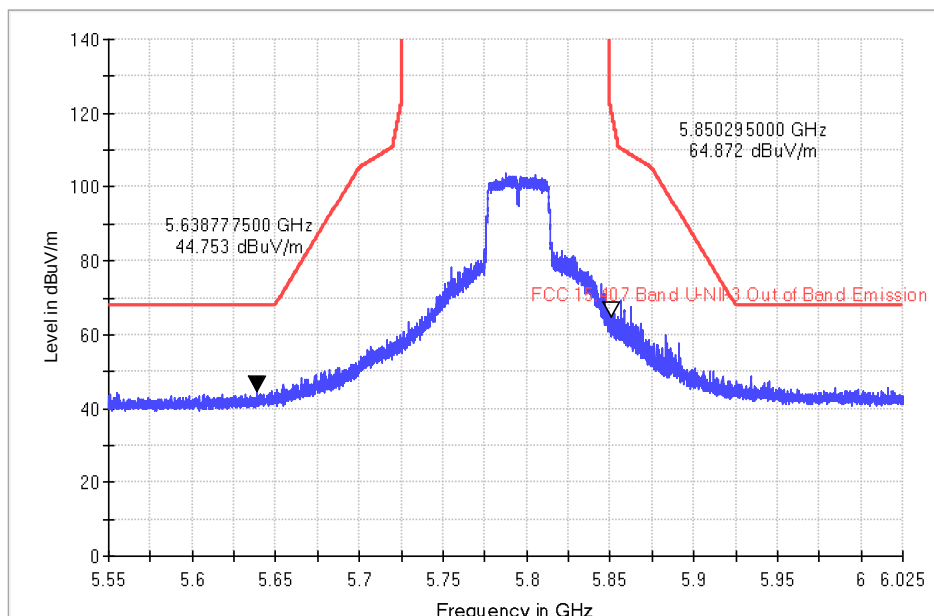
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FCC 15.407 U-NII Out of Band Emission



Vertical

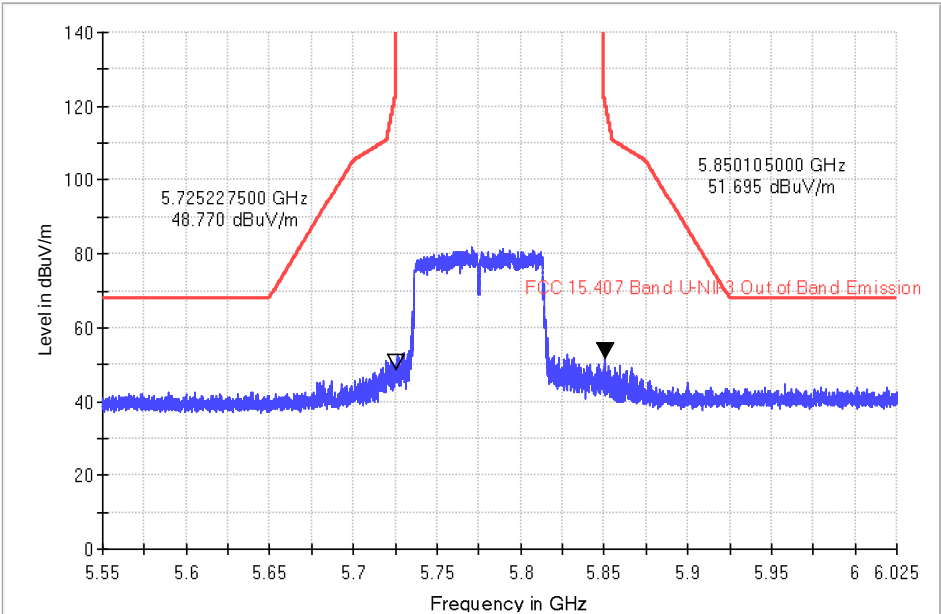
FCC 15.407 U-NII Out of Band Emission





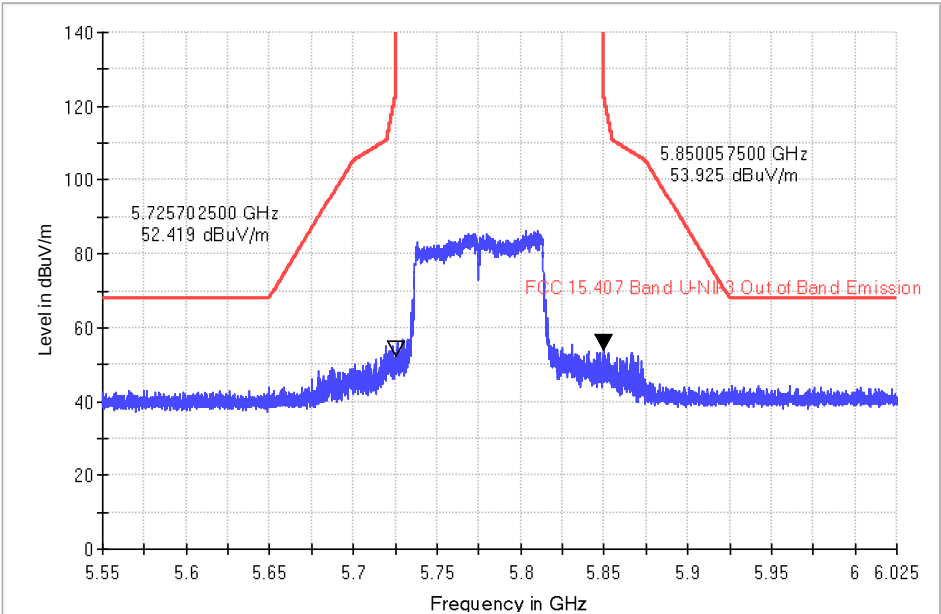
802.11ac80: CH 5775MHz SISO ANT2 Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

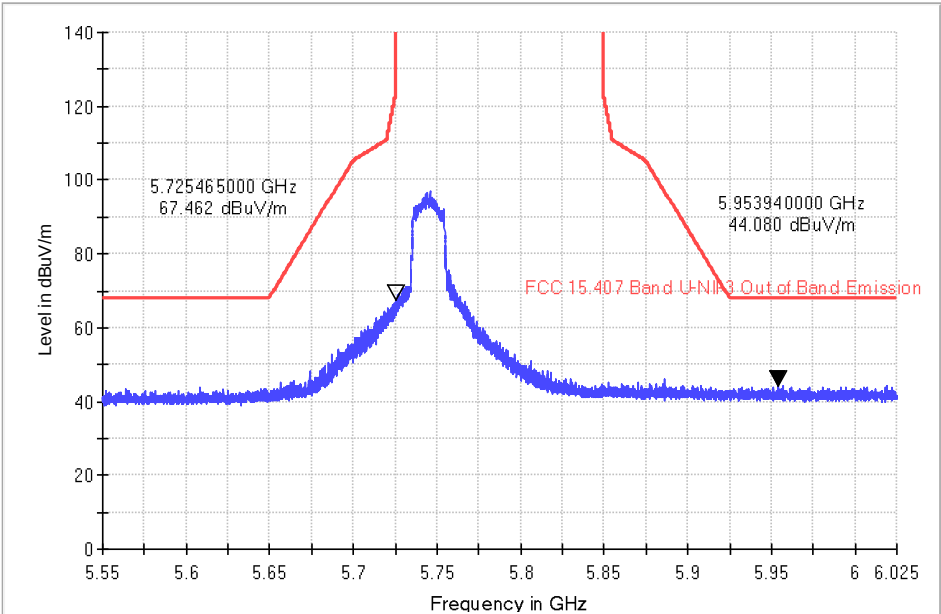
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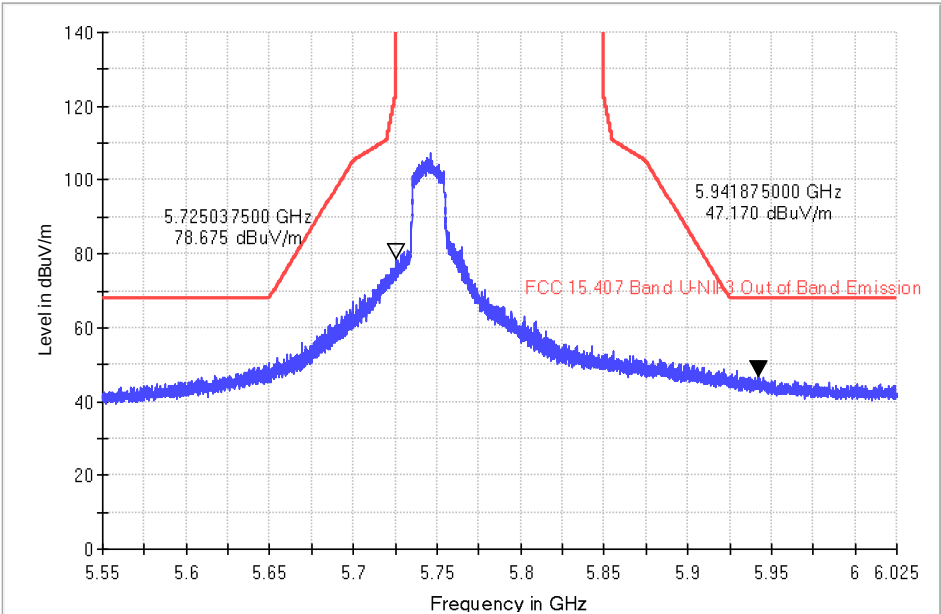
802.11ax20: CH 5745MHz SISO ANT2
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

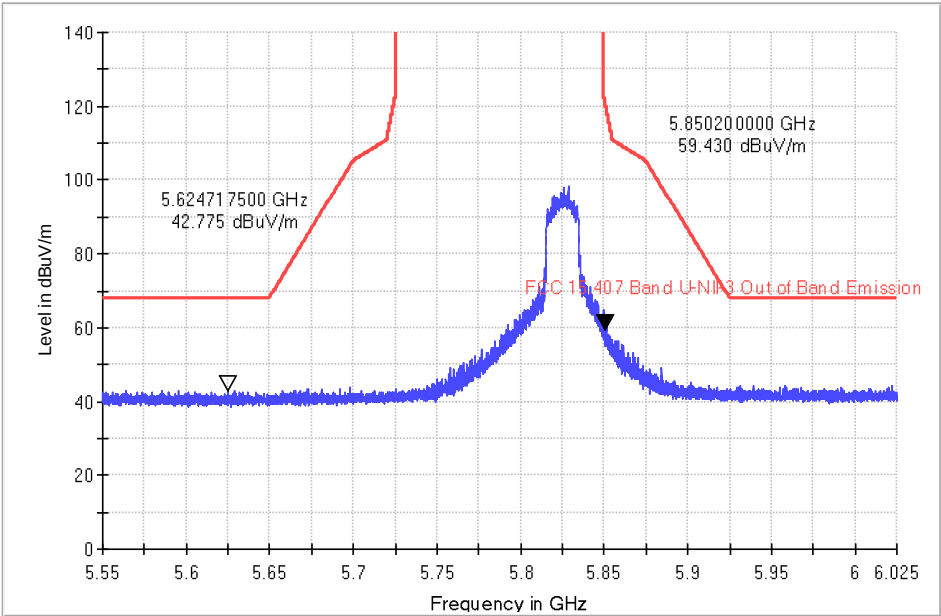
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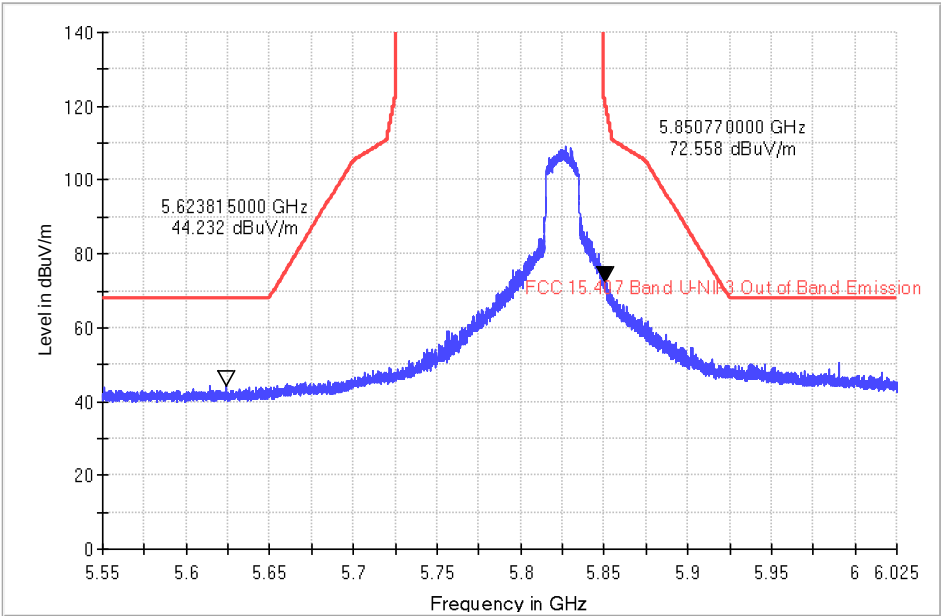
802.11ax20: CH 5825MHz SISO ANT2 Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

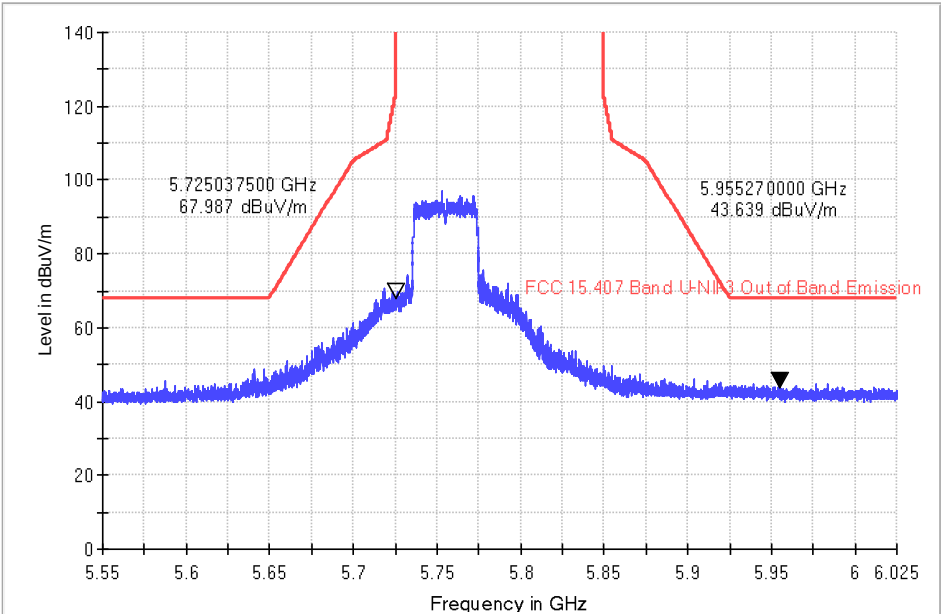
FCC 15.407 U-NII Out of Band Emission





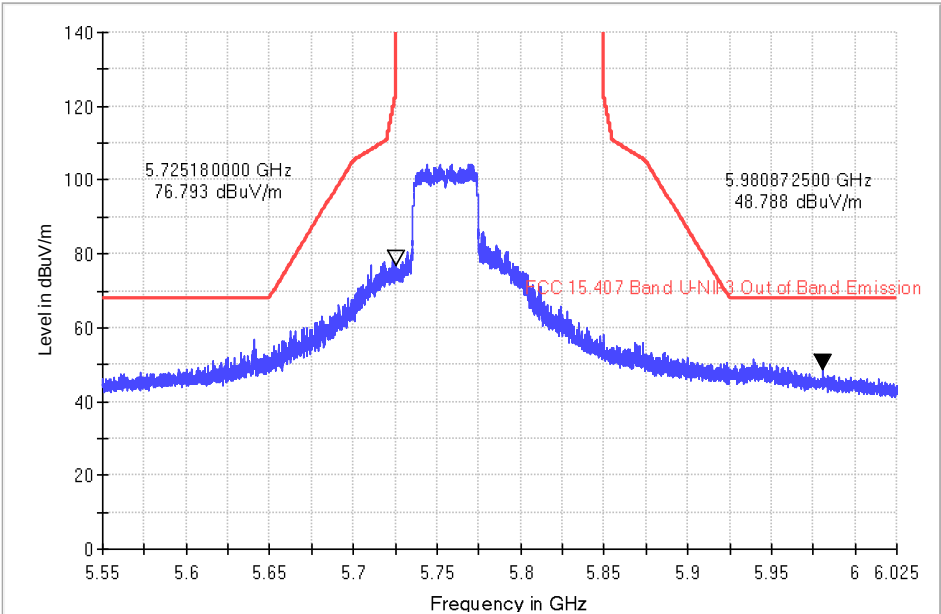
802.11ax40: CH 5755MHz SISO ANT2
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

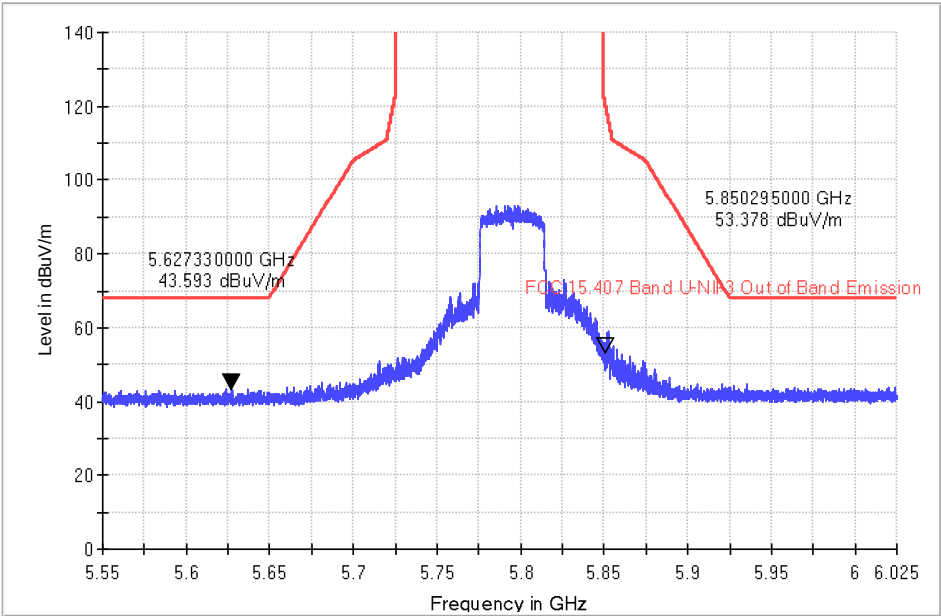
FCC 15.407 U-NII Out of Band Emission





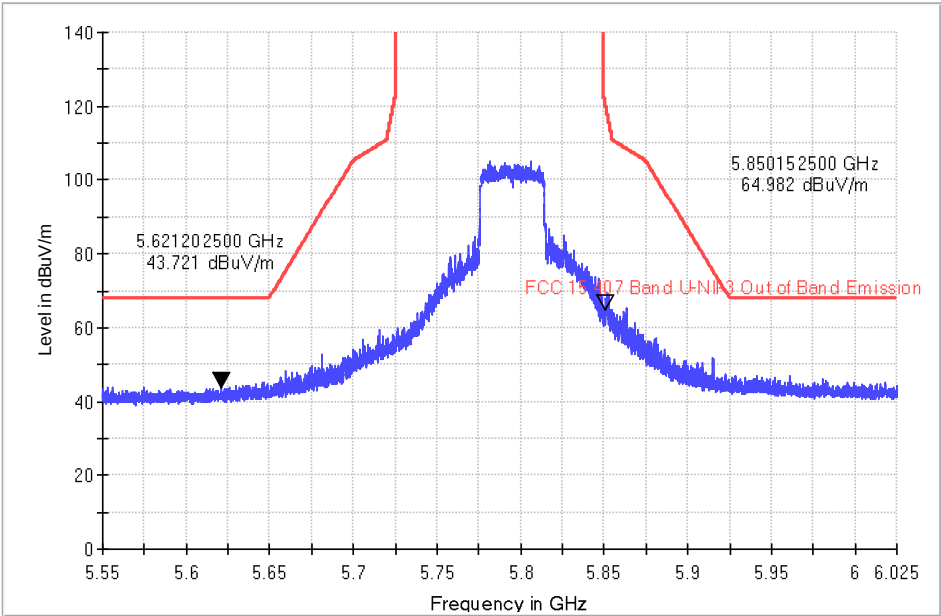
802.11ax40: CH 5795MHz SISO ANT2 Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

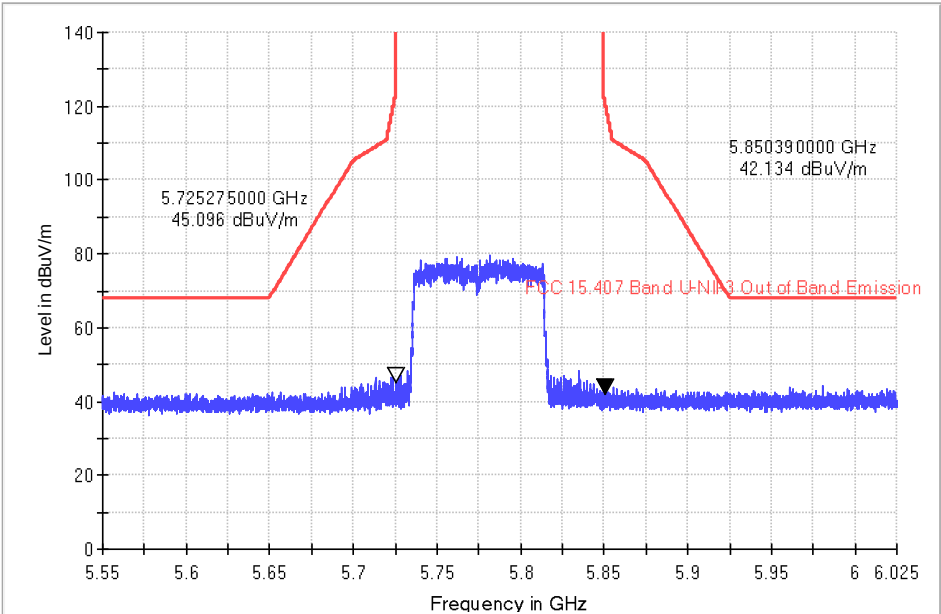
FCC 15.407 U-NII Out of Band Emission





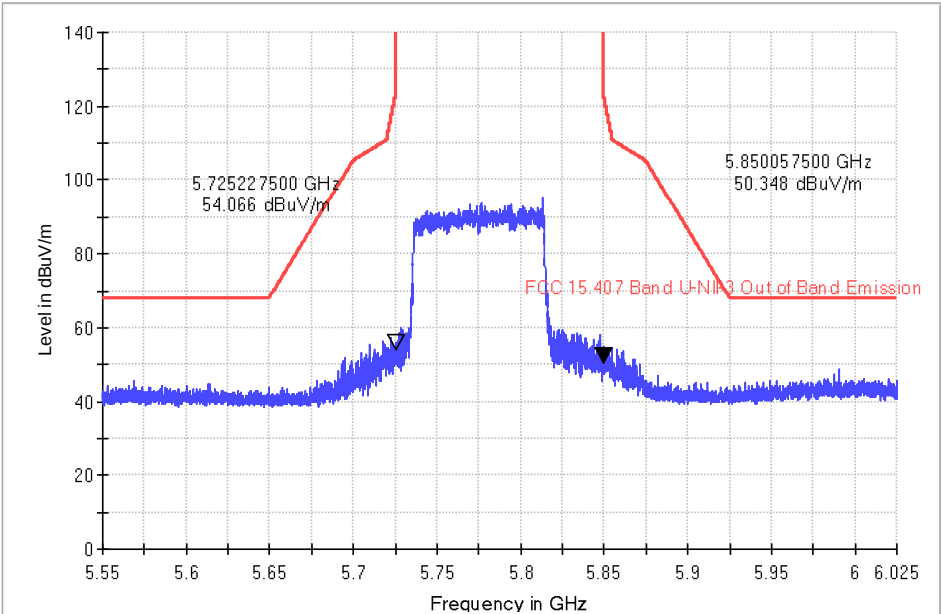
802.11ax80: CH 5775MHz SISO ANT2 Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

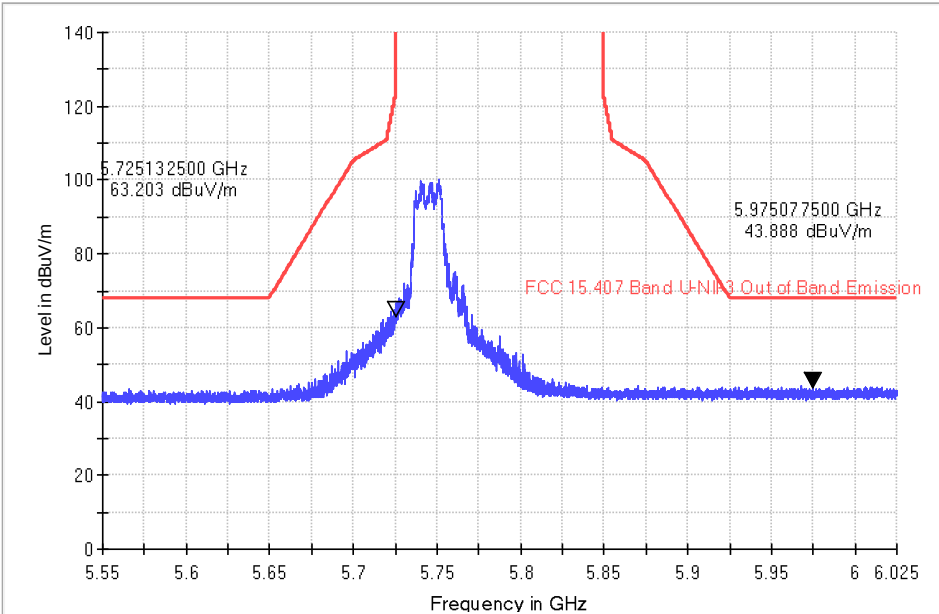
FCC 15.407 U-NII Out of Band Emission





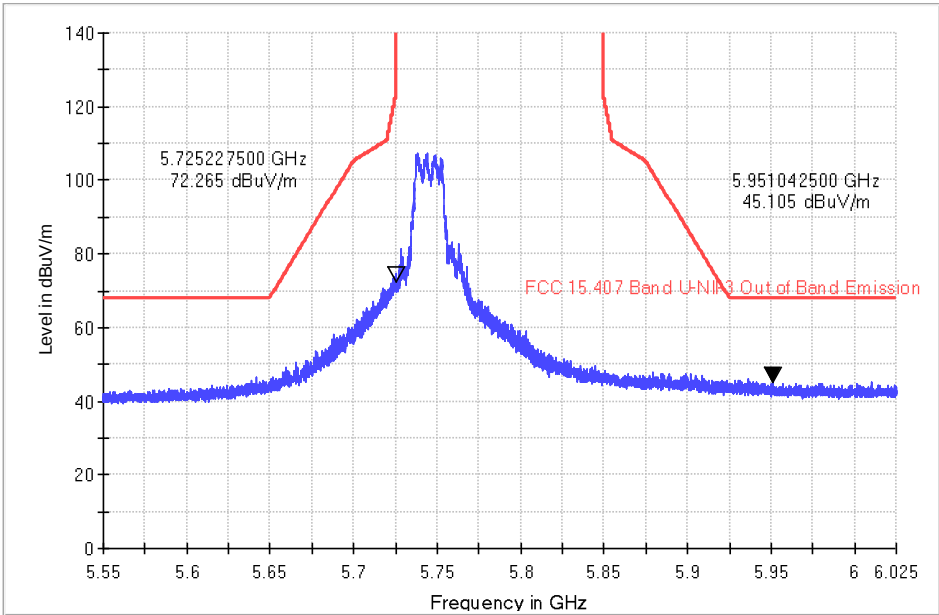
802.11a: CH 5745MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

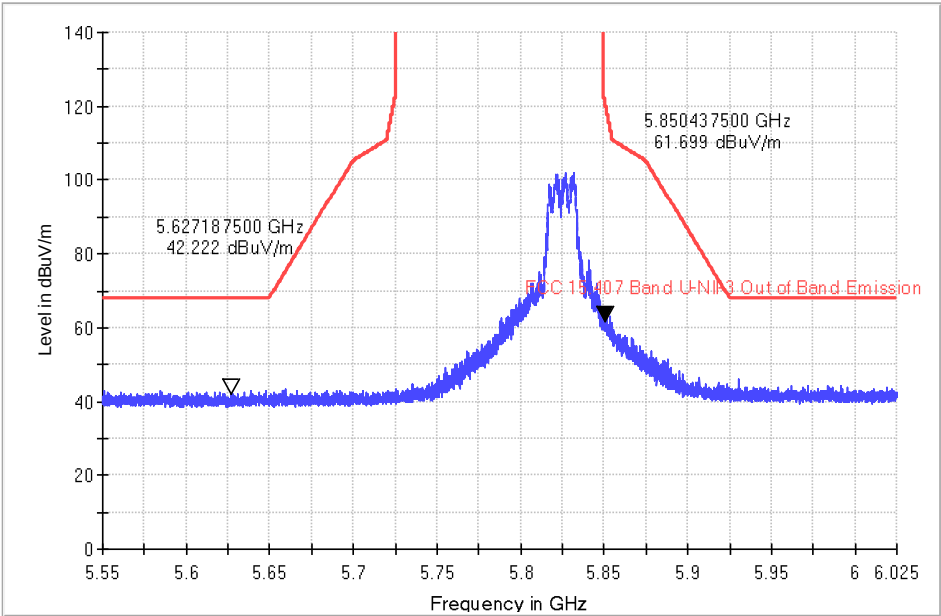
FCC 15.407 U-NII Out of Band Emission





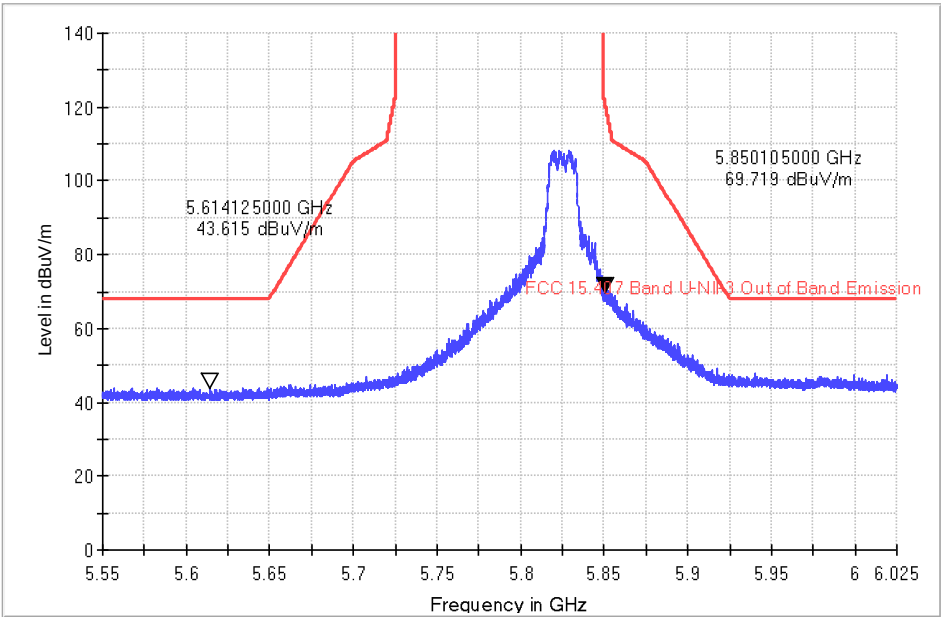
802.11a: CH 5825MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

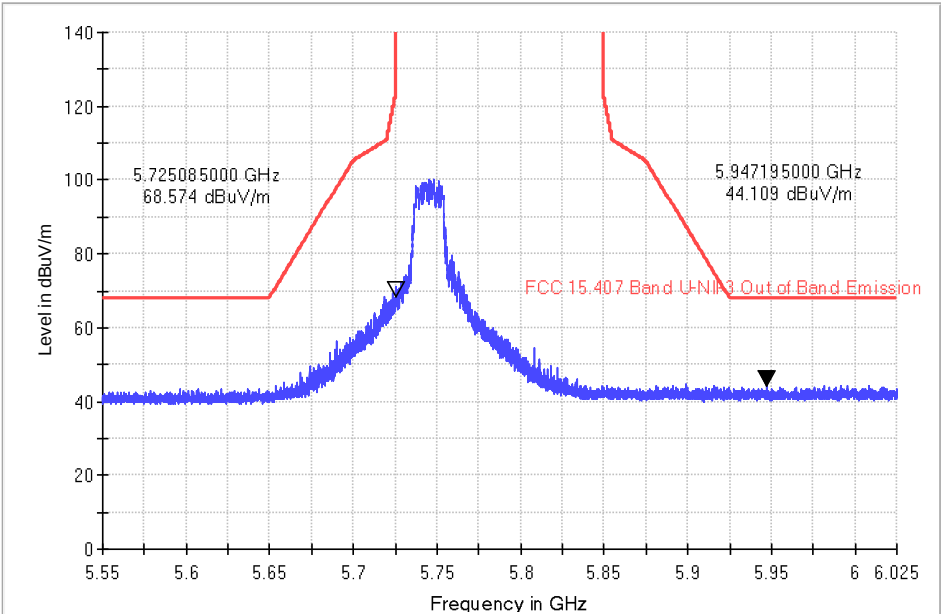
FCC 15.407 U-NII Out of Band Emission





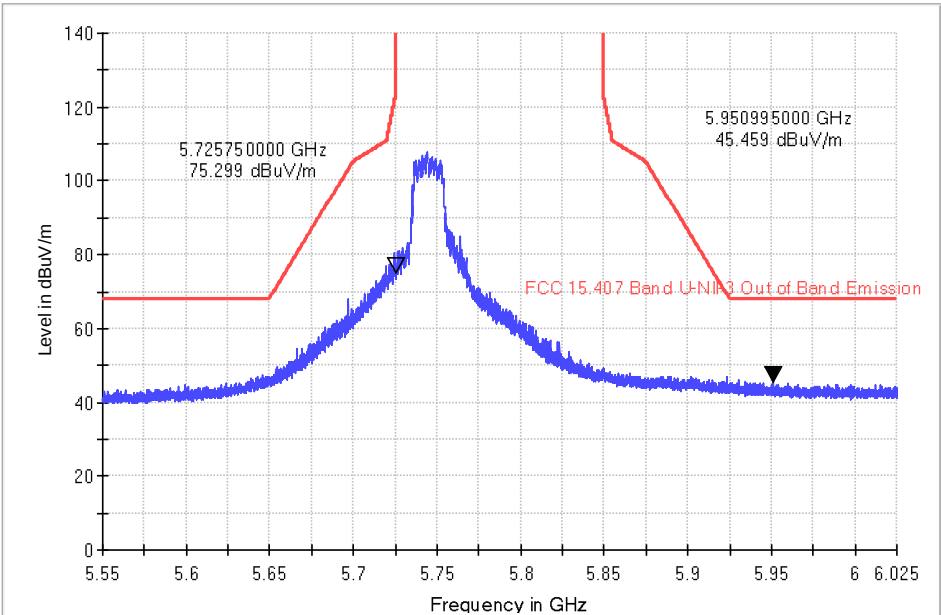
802.11n20: CH 5745MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

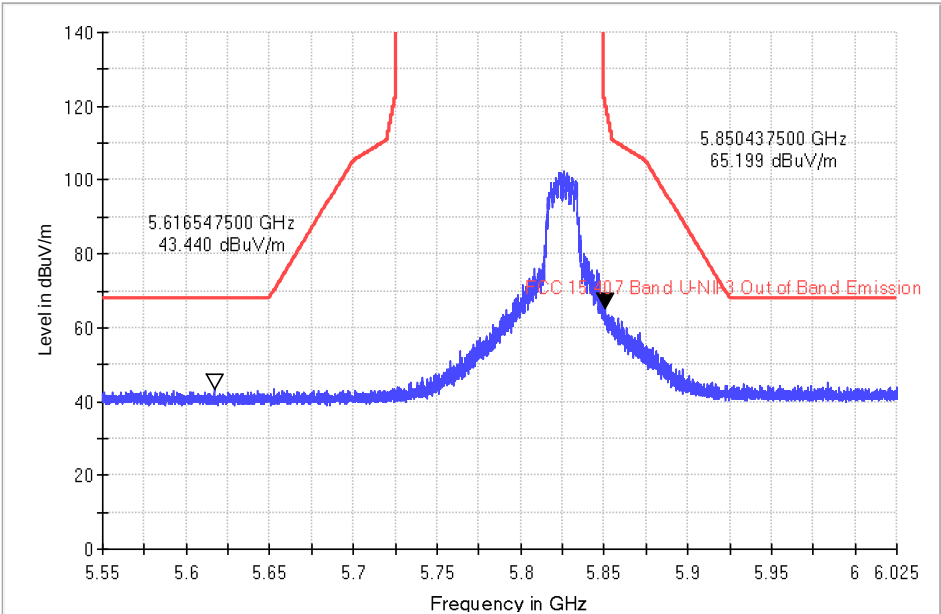
FCC 15.407 U-NII Out of Band Emission





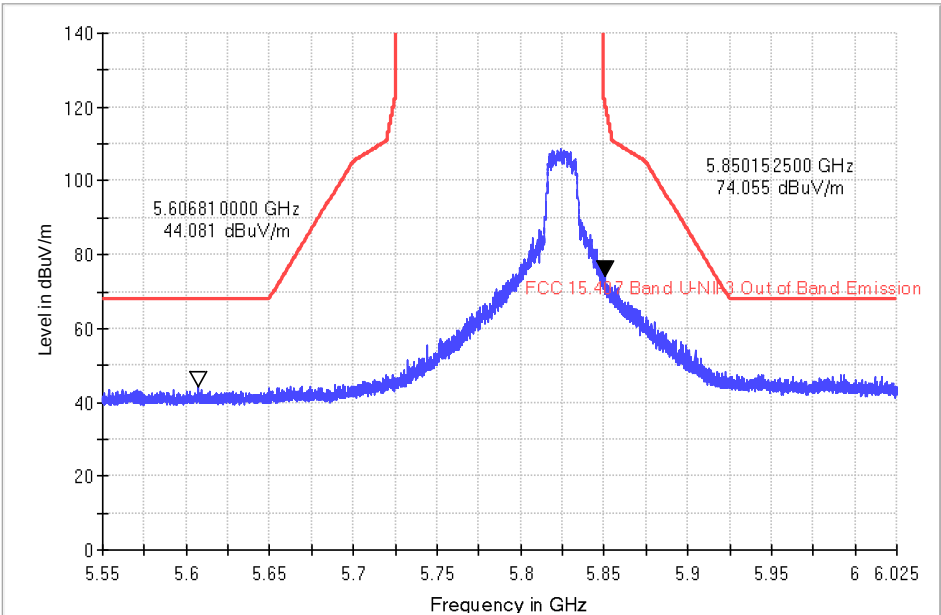
802.11n20: CH 5825MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

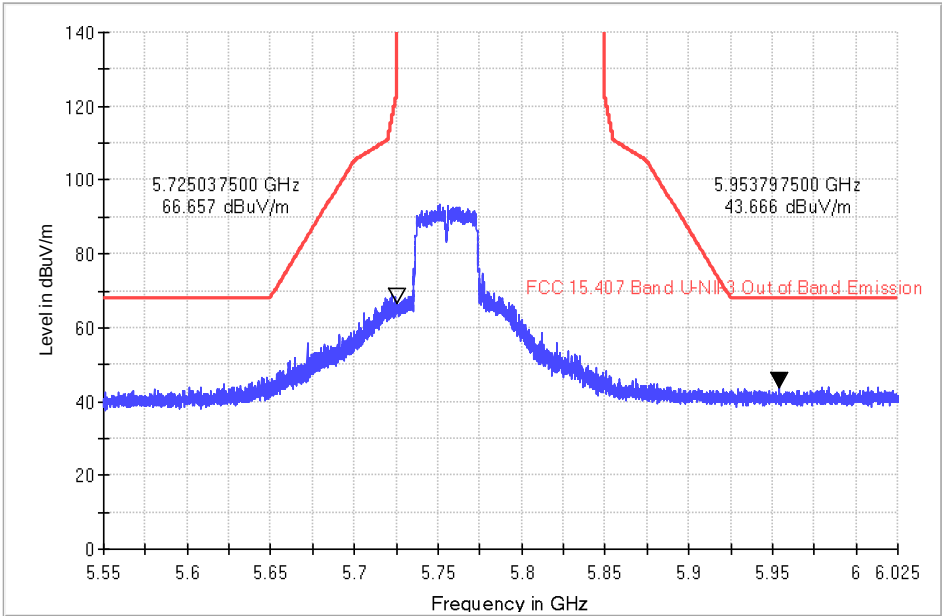
FCC 15.407 U-NII Out of Band Emission





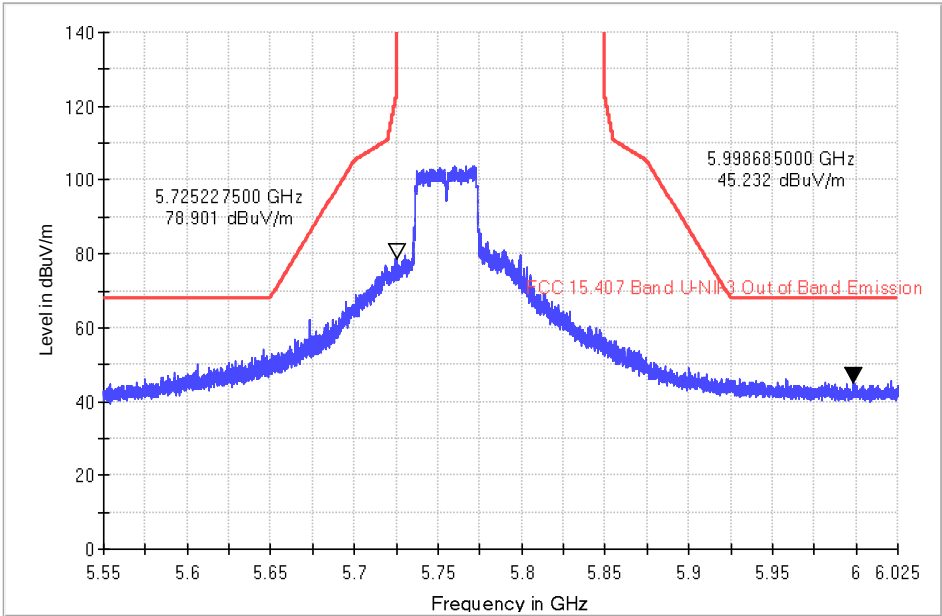
802.11n40: CH 5755MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

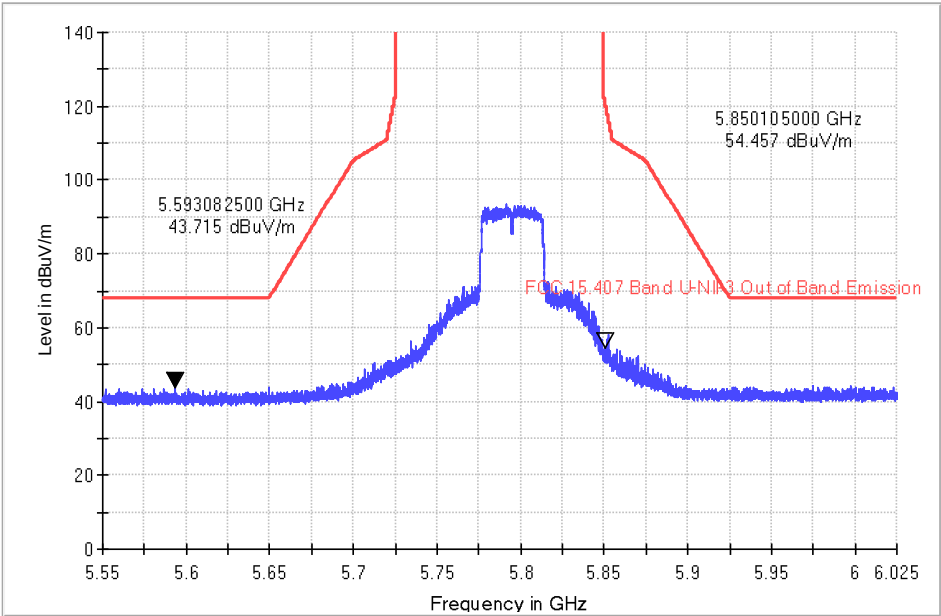
FCC 15.407 U-NII Out of Band Emission





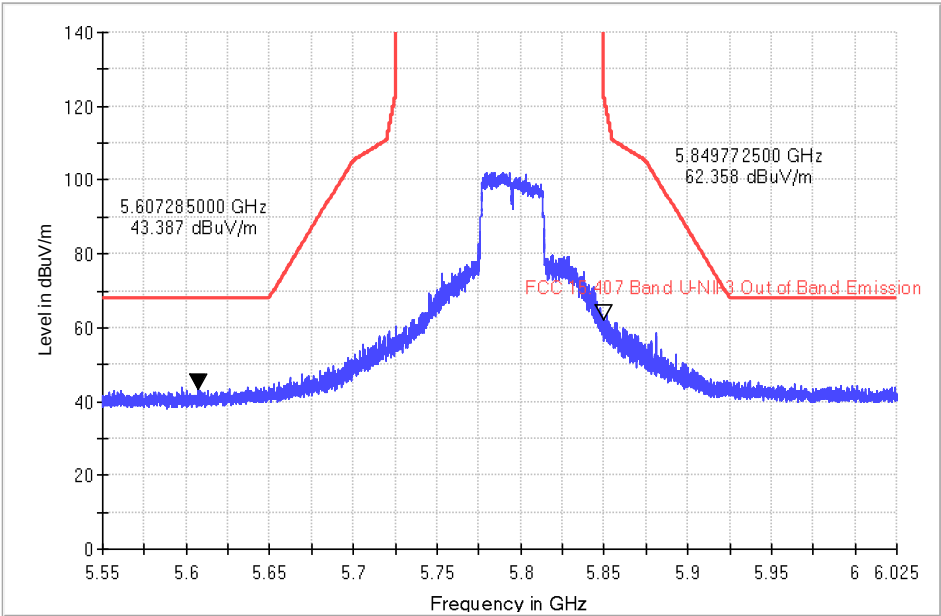
802.11n40: CH 5795MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



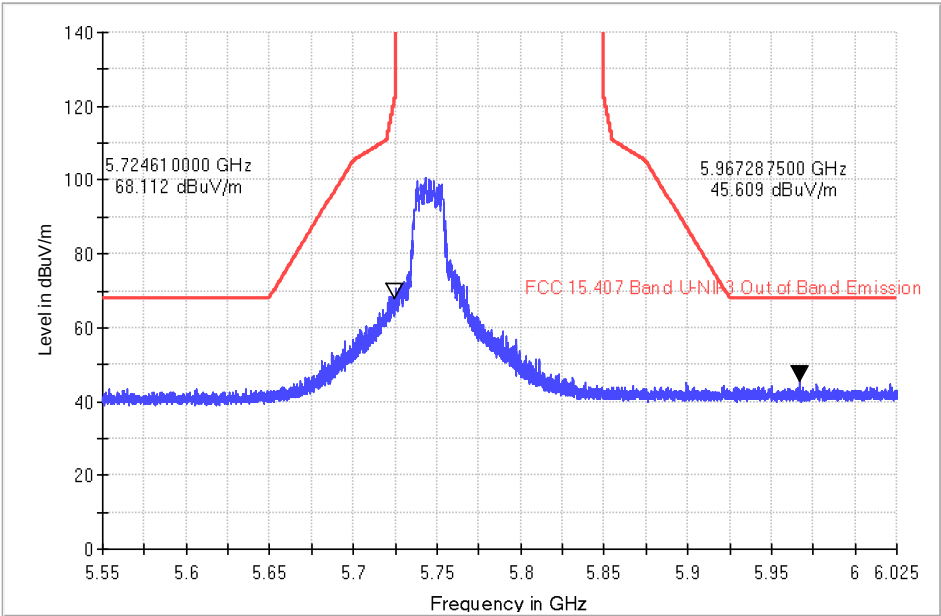
Vertical

FCC 15.407 U-NII Out of Band Emission



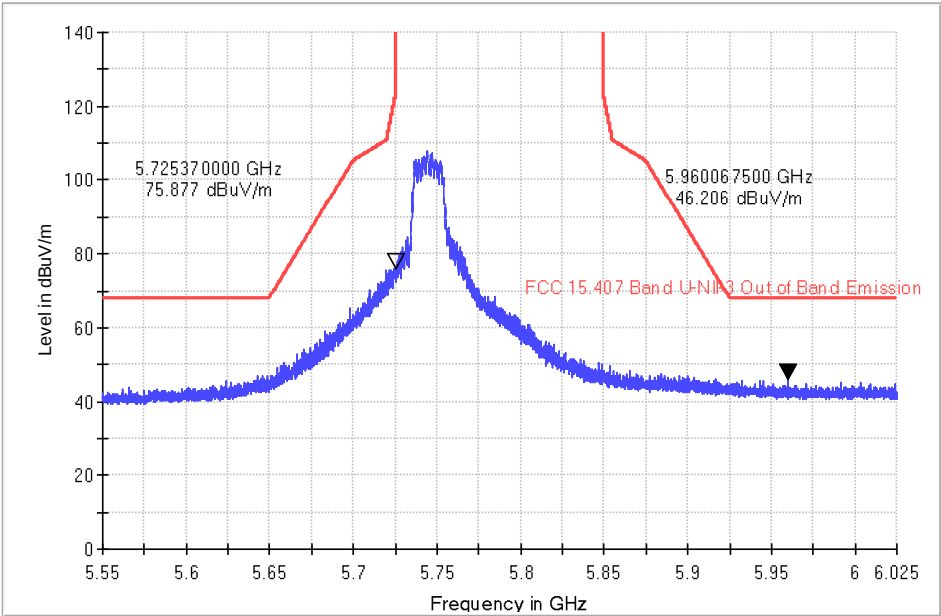
802.11ac20: CH 5745MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

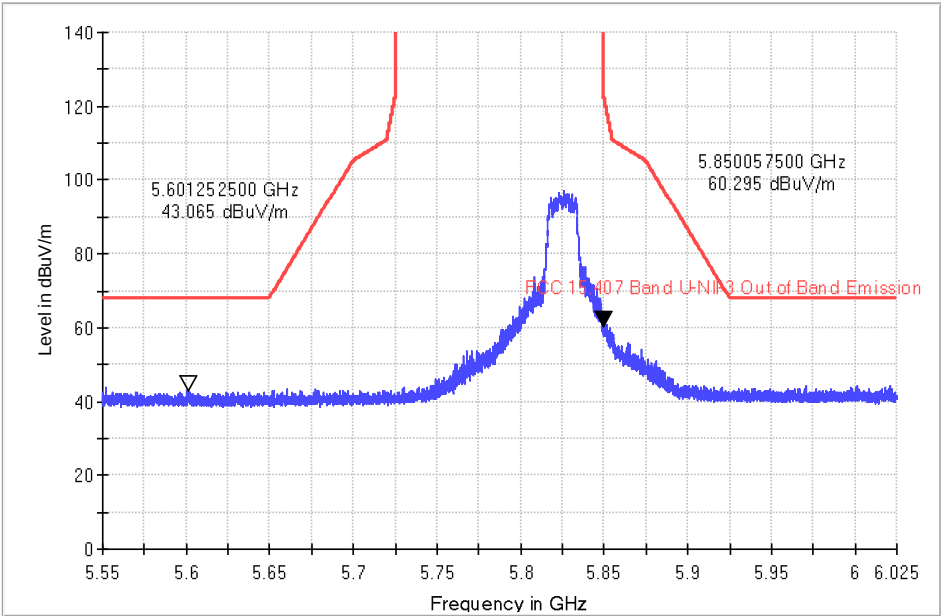
FCC 15.407 U-NII Out of Band Emission





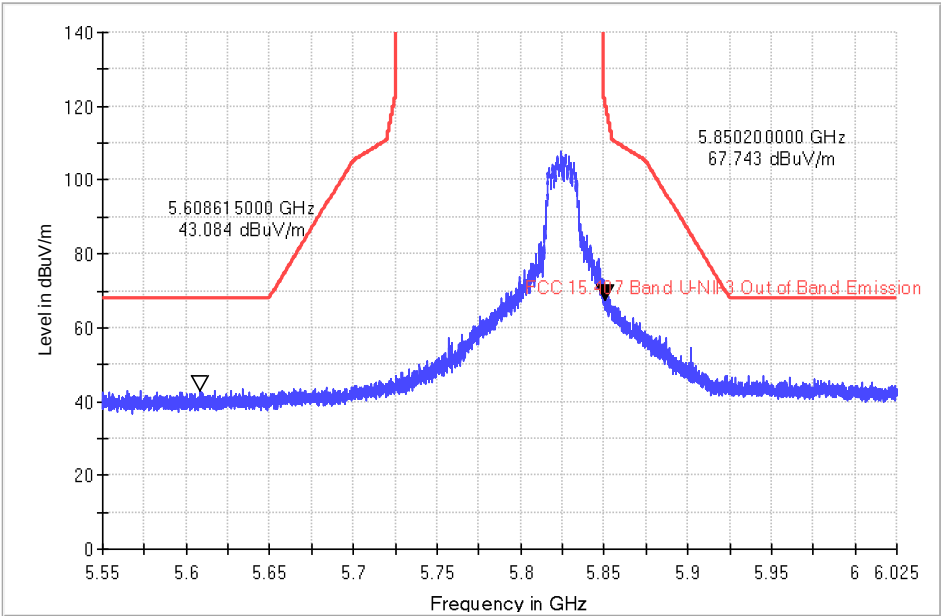
802.11ac20: CH 5825MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



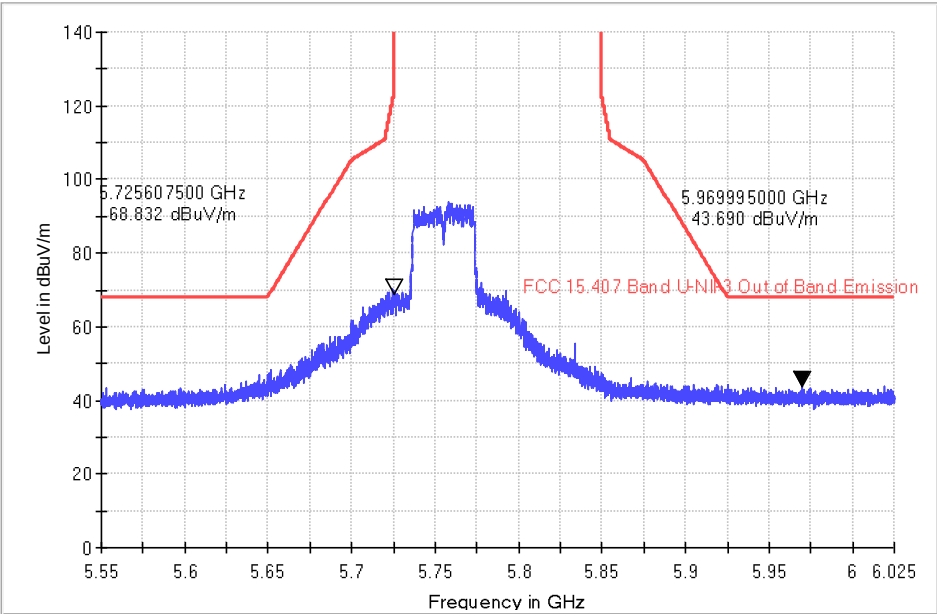
Vertical

FCC 15.407 U-NII Out of Band Emission



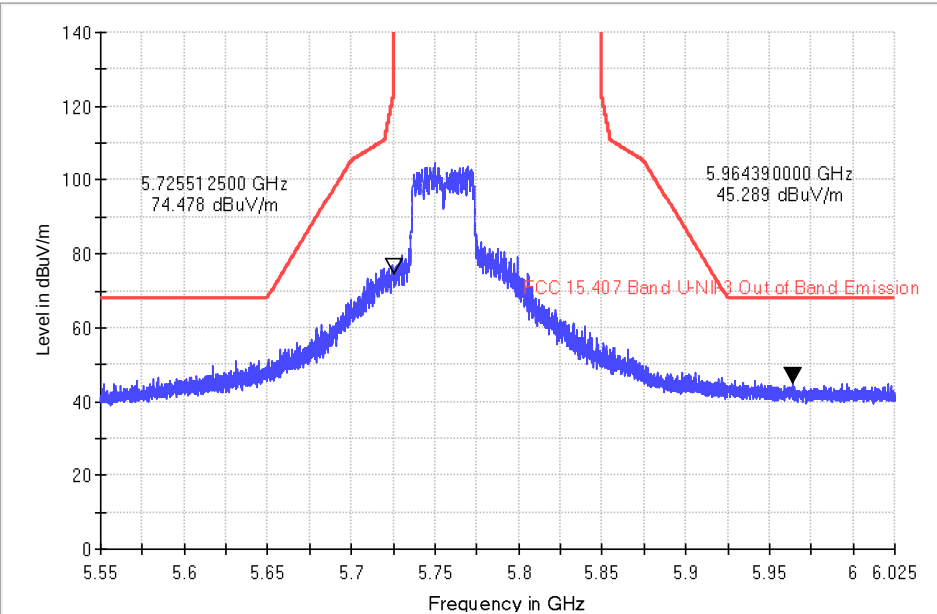
802.11ac40: CH 5755MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

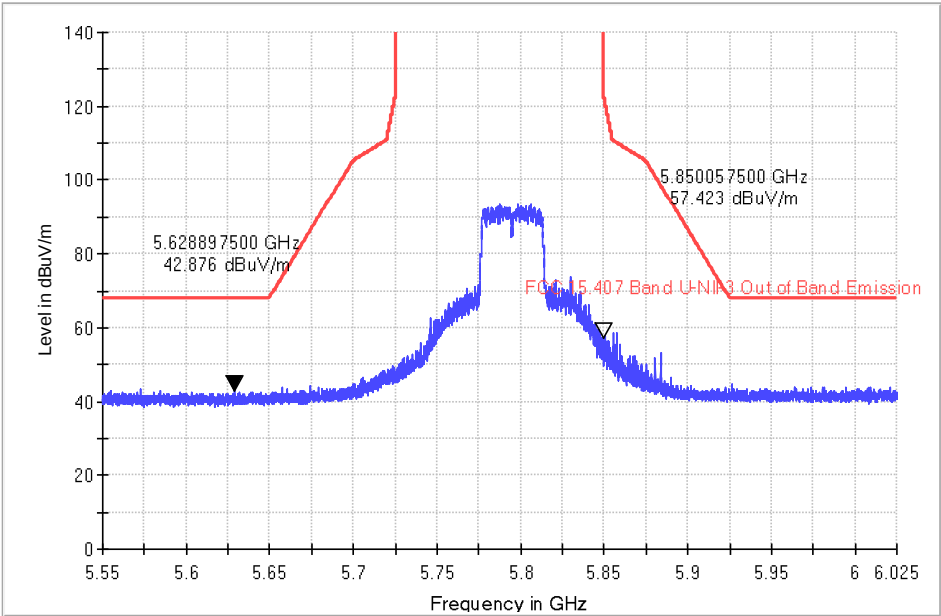
FCC 15.407 U-NII Out of Band Emission





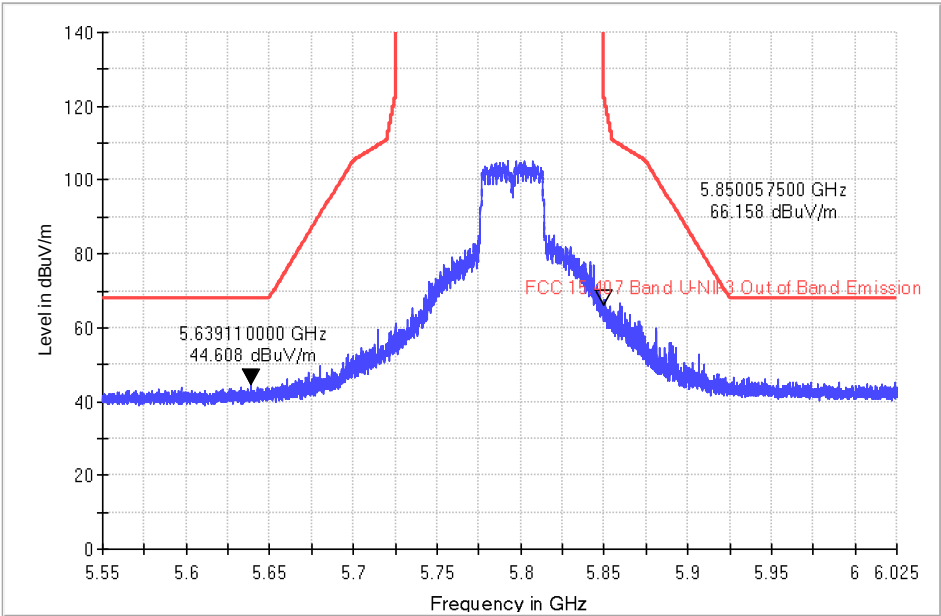
802.11ac40: CH 5795MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

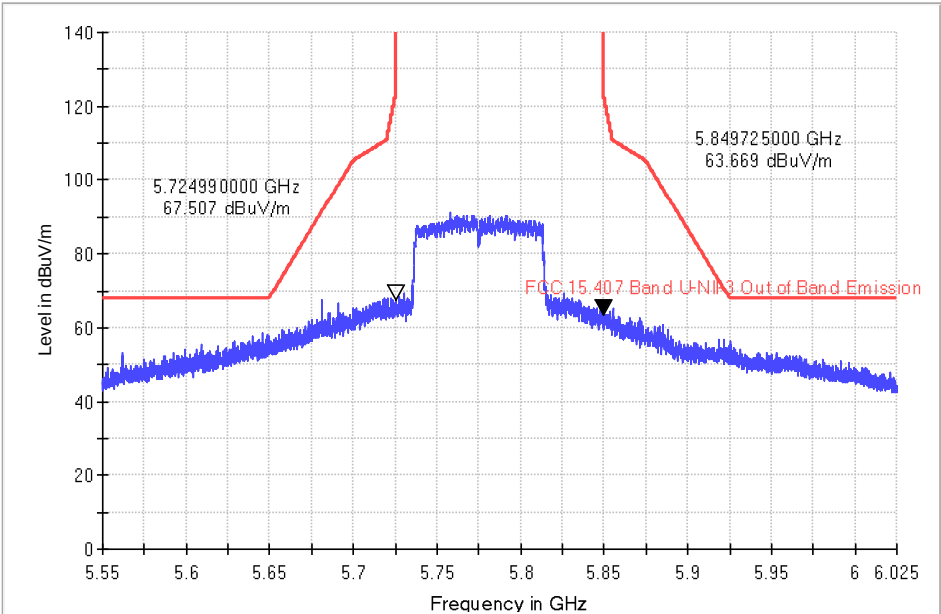
FCC 15.407 U-NII Out of Band Emission





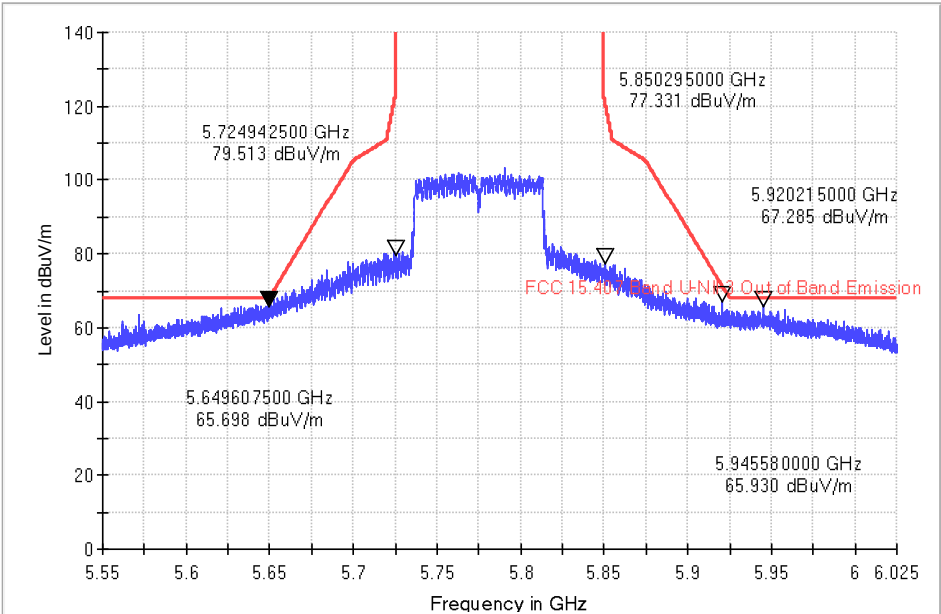
802.11ac80: CH 5775MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

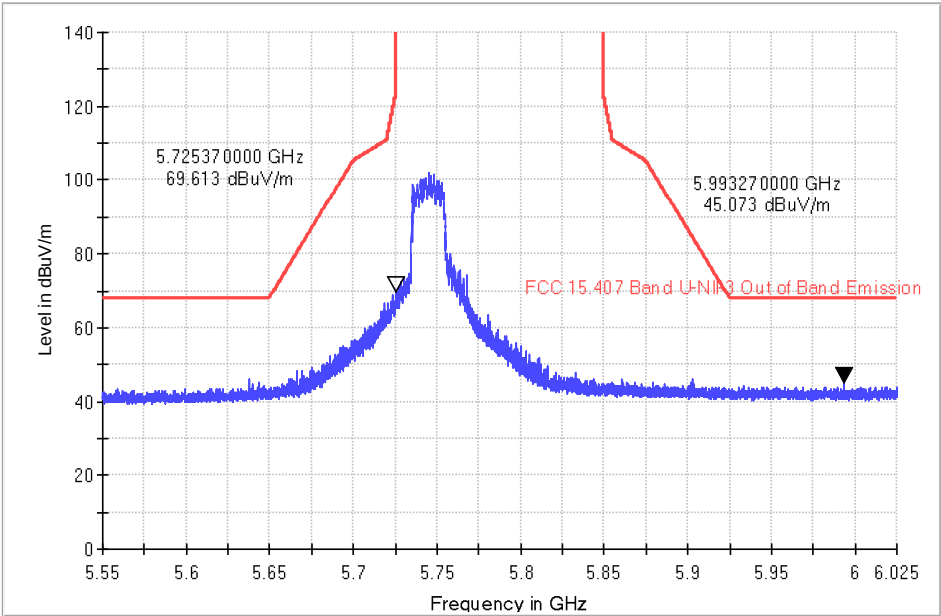
FCC 15.407 U-NII Out of Band Emission





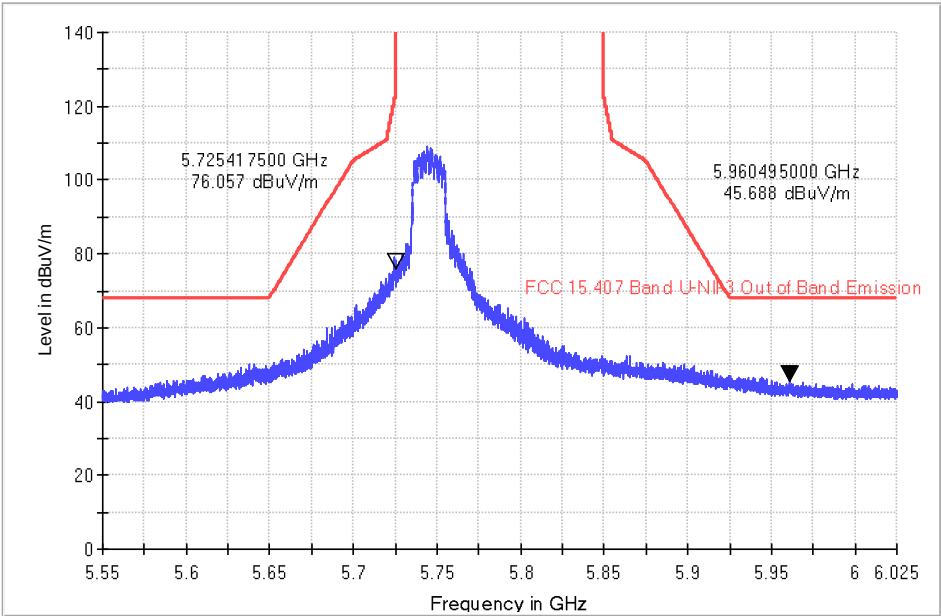
802.11ax20: CH 5745MHz MIMO
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

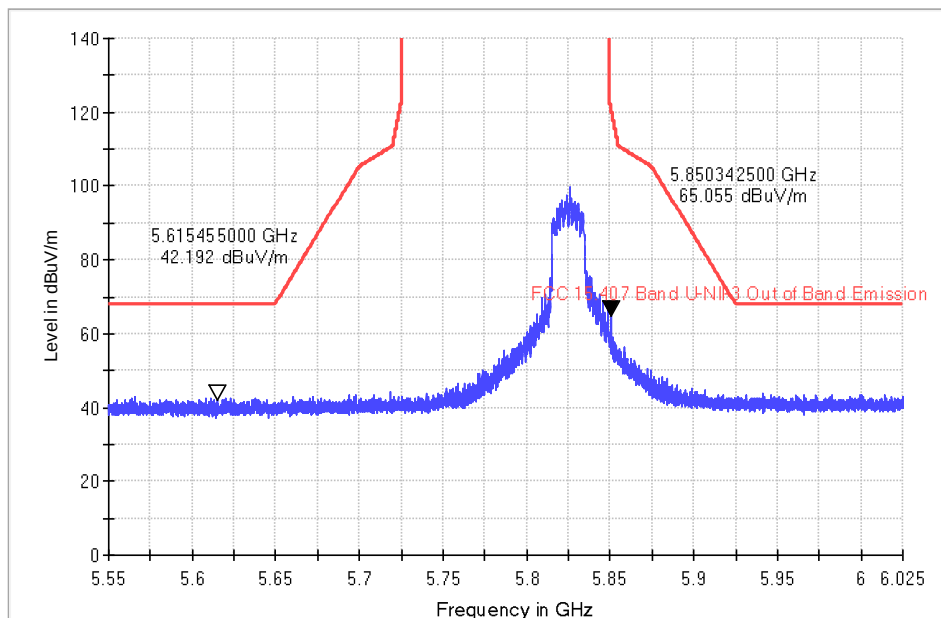
FCC 15.407 U-NII Out of Band Emission





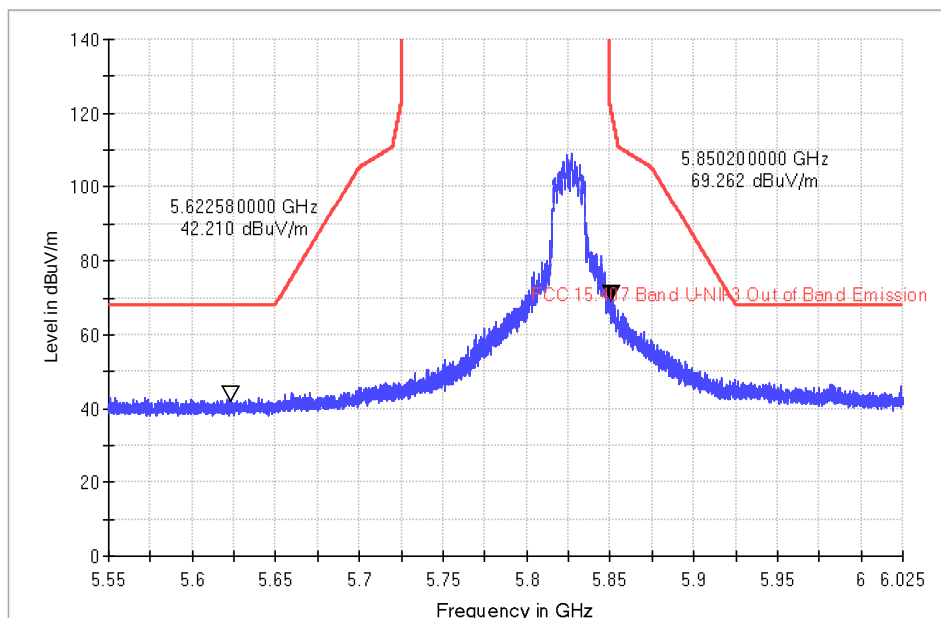
802.11ax20: CH 5825MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

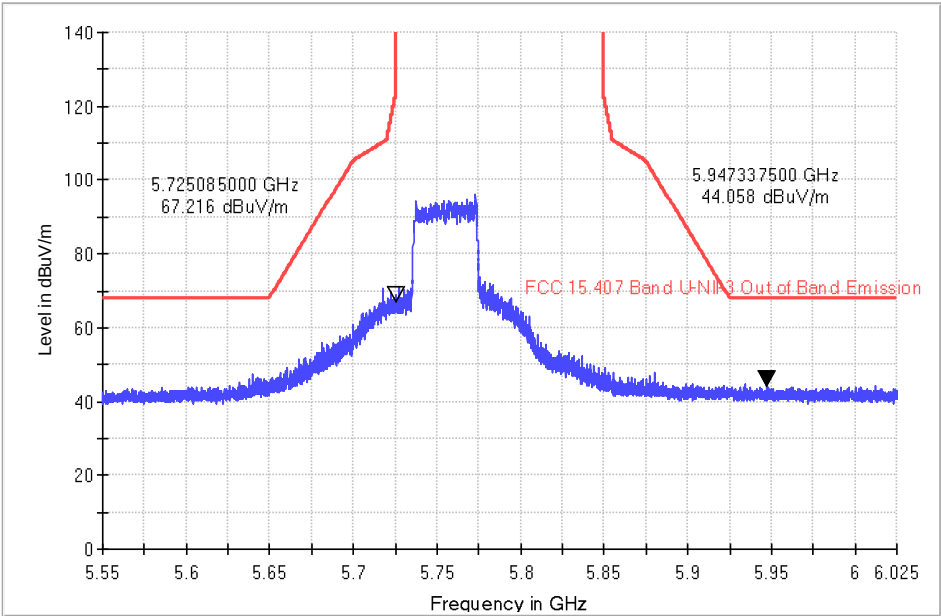
FCC 15.407 U-NII Out of Band Emission





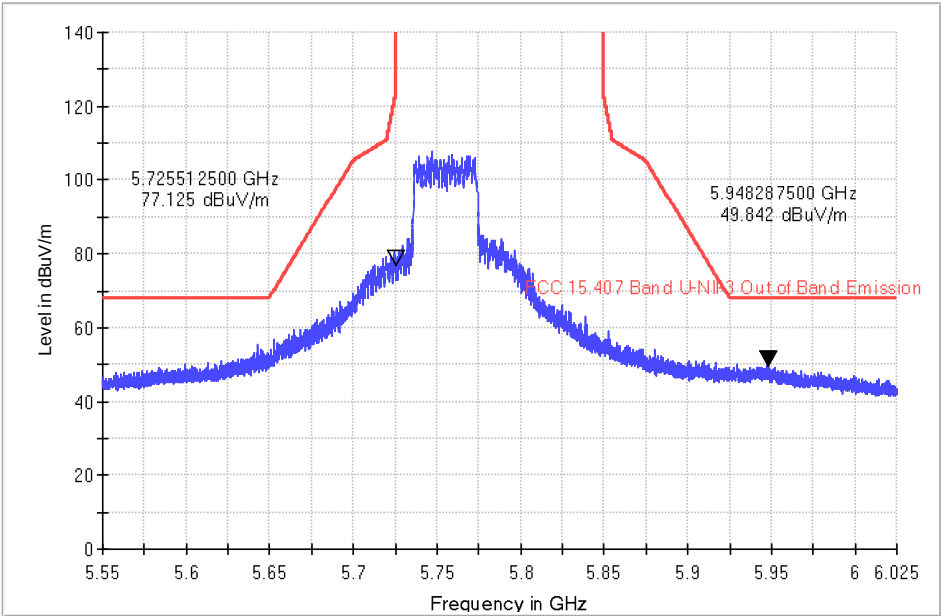
802.11ax40: CH 5755MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



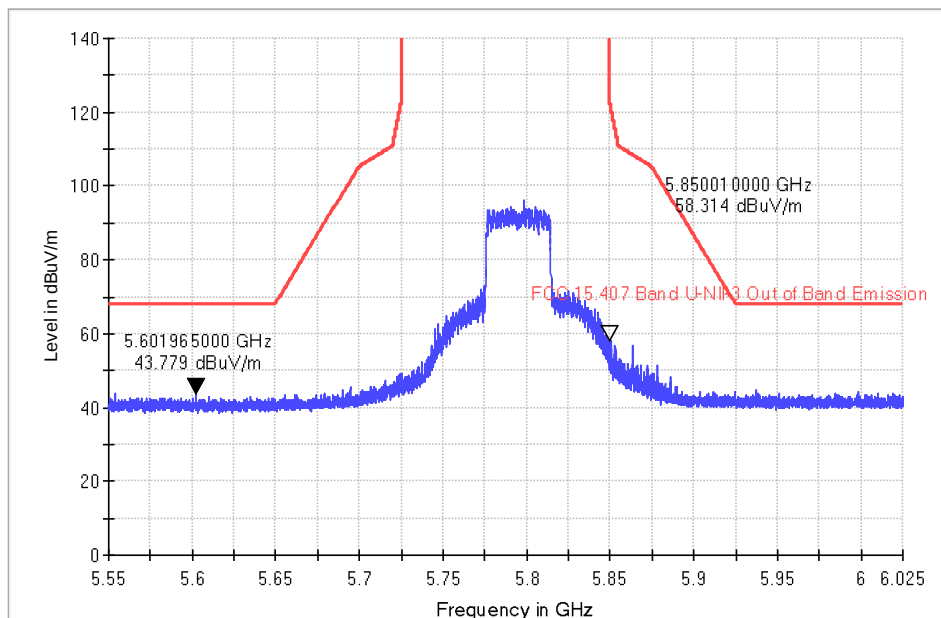
Vertical

FCC 15.407 U-NII Out of Band Emission



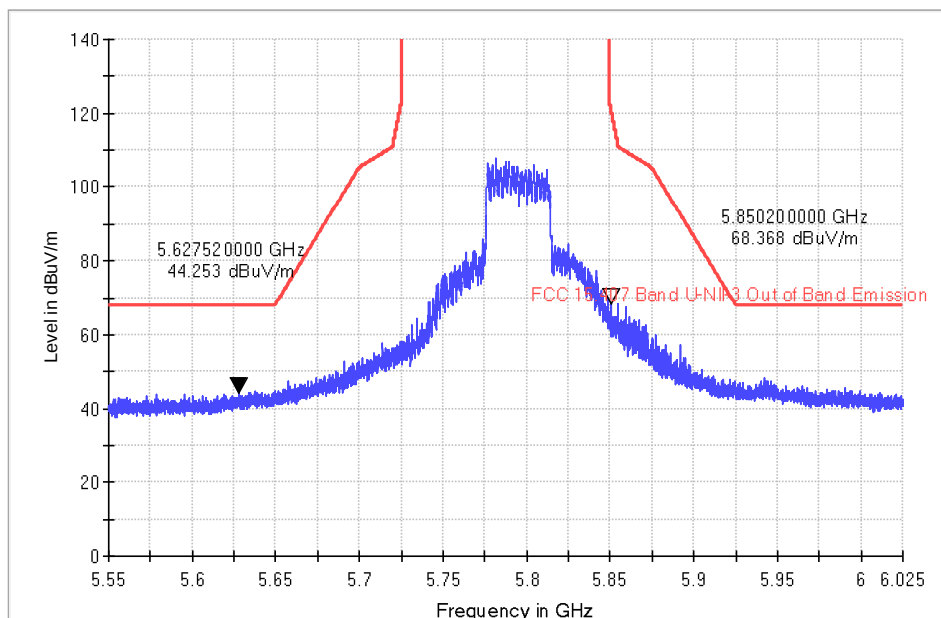
802.11ax40: CH 5795MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

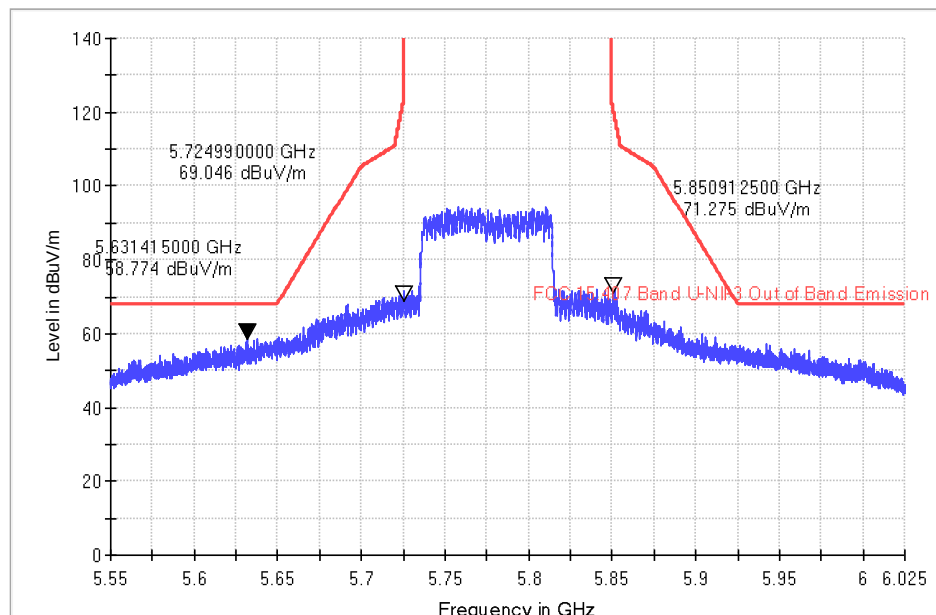
FCC 15.407 U-NII Out of Band Emission





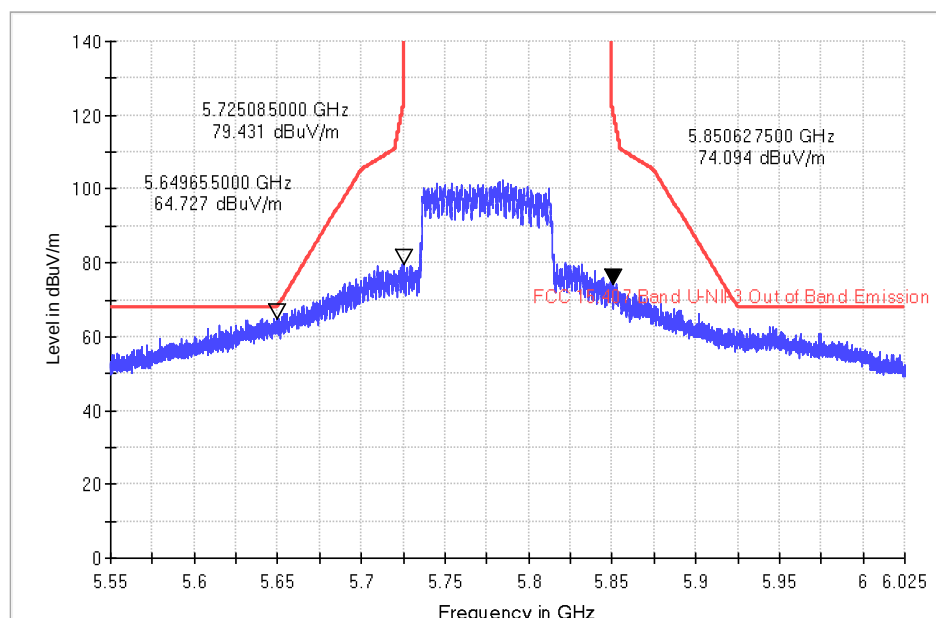
802.11ax80: CH 5775MHz MIMO Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



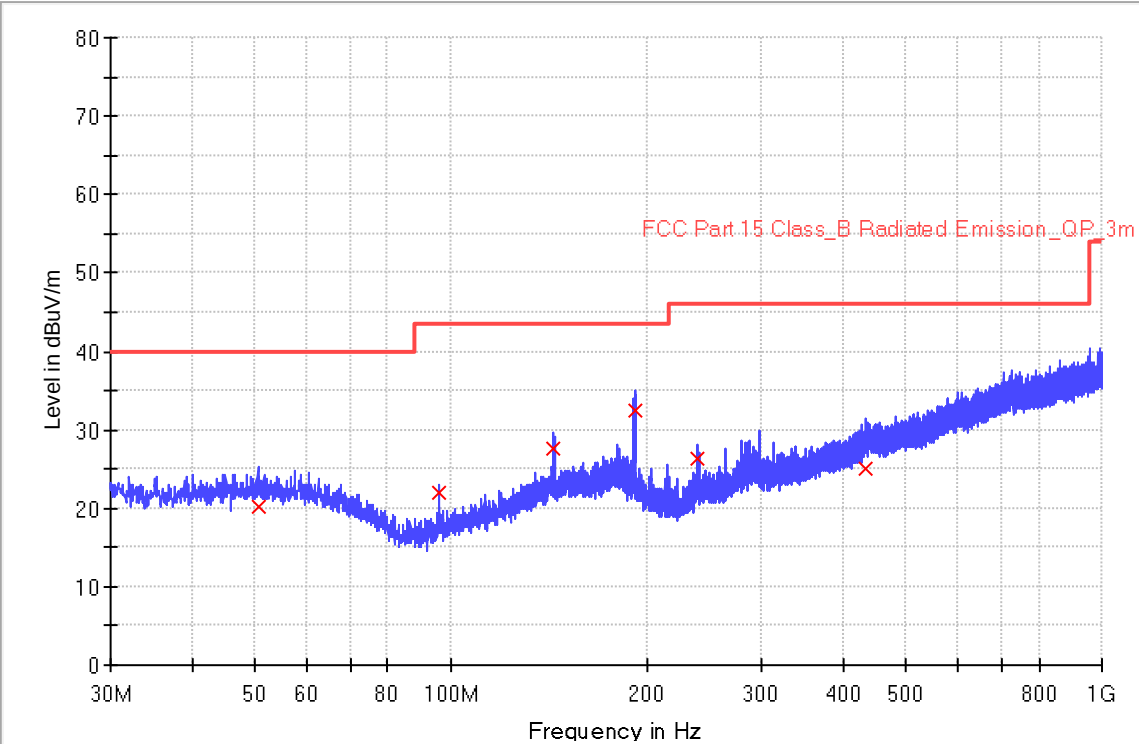


Transmitting spurious emission test result as below:

The worst case of Radiated Emission below 1GHz:

Site: 3 meter chamber	Time: 2024/06/16 - 10:23
Limit: FCC_Part15.209_RE(3m)_ClassB	Engineer: Wenqiang LU
Probe: VULB9168	Polarity: Horizontal
EUT: Intraoral Scanner, Model no: Aoralscan Elite Wireless	Power: 120VAC, 60Hz for Cradle
Note: Transmit by at 802.11a channel 5785MHz MIMO.	
Note: Pre-scan with three orthogonal axis and the worst case as X axis.	

RE_VULB9168_pre_Cont_30-1000



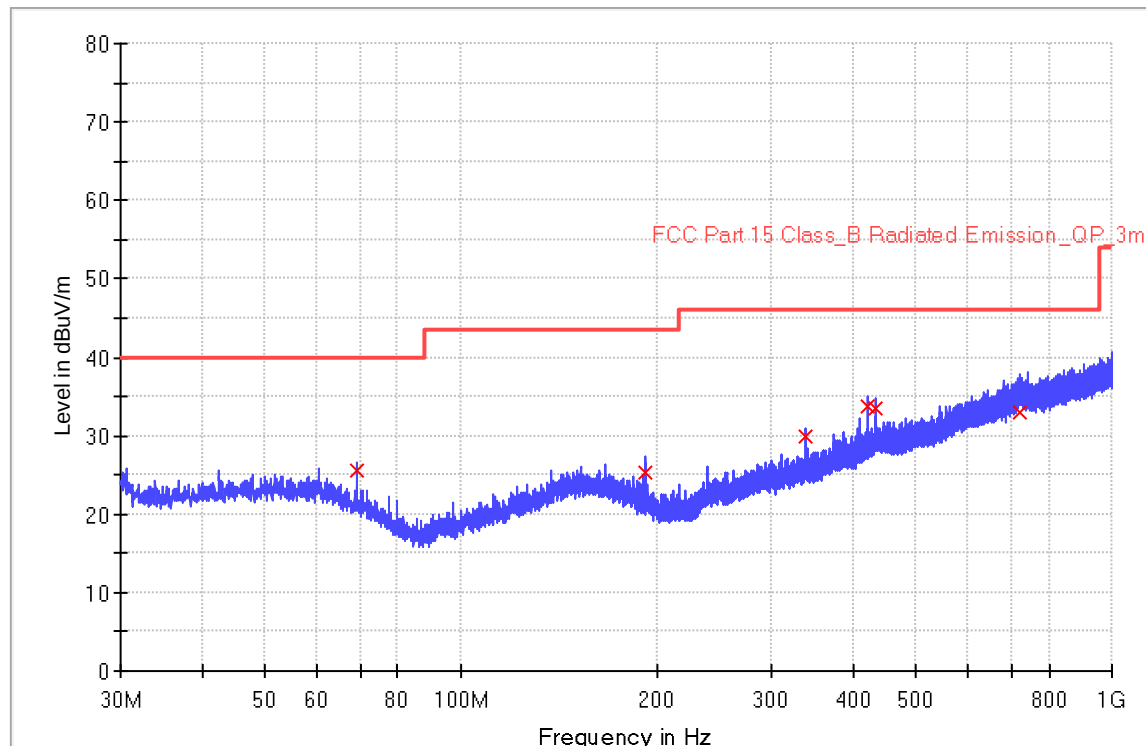
Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
50.520000	20.2	1000.0	120.000	133.0	H	123.0	20.6	19.8	40.0
95.760000	22.0	1000.0	120.000	215.0	H	164.0	15.6	21.5	43.5
143.680000	27.6	1000.0	120.000	215.0	H	111.0	20.6	15.9	43.5
191.880000	32.4	1000.0	120.000	116.0	H	215.0	18.3	11.1	43.5
239.560000	26.2	1000.0	120.000	175.0	H	241.0	19.5	19.8	46.0
434.240000	25.1	1000.0	120.000	165.0	H	277.0	25.5	20.9	46.0

The worst case of Radiated Emission below 1GHz:

Site: 3 meter chamber	Time: 2024/06/16 - 09:13
Limit: FCC_Part15.209_RE(3m)_ClassB	Engineer: Wenqiang LU
Probe: VULB9168	Polarity: Vertical
EUT: Intraoral Scanner, Model no: Aoralscan Elite Wireless	Power: 120VAC, 60Hz for Cradle
Note: Transmit by at 802.11a channel 5785MHz MIMO.	
Note: Pre-scan with three orthogonal axis and the worst case as X axis.	

RE_VULB9168_pre_Cont_30-1000



Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
69.040000	25.7	1000.0	120.000	164.0	V	134.0	18.8	14.3	40.0
191.880000	25.2	1000.0	120.000	153.0	V	112.0	18.3	18.3	43.5
337.480000	29.8	1000.0	120.000	215.0	V	163.0	22.6	16.2	46.0
421.840000	33.6	1000.0	120.000	251.0	V	221.0	24.8	12.4	46.0
434.280000	33.5	1000.0	120.000	164.0	V	216.0	25.5	12.5	46.0
722.720000	32.9	1000.0	120.000	113.0	V	235.0	31.1	13.1	46.0

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

10 Test Equipment List

List of Test Instruments
Test Site1

	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE DATE
C	Wideband Radio Communication Tester	R&S	CMW500	S2110416b-YQ-EMC	2023-11-10	2024-11-9
	Vector signal generator	Agilent	N5182A	S2110417b-YQ-EMC	2023-11-10	2024-11-9
	RF automatic control unit	MWRFTest	MW100-RFCB	S2110418b-YQ-EMC	2023-9-28	2024-9-27
	Temperature Chamber	Shanghai HUCAN	HTT-100AP	S2201430b-YQ-EMC	2024-2-29	2025-2-28
	Signal Analyzer	R & S	FSV40	S1503003-YQ-EMC	2023-8-1	2024-7-31
RE	EMI Test Receiver	Rohde & Schwarz	ESR3	101906	2023-8-1	2024-7-31
	Signal Analyzer	Rohde & Schwarz	FSV40	101091	2023-8-1	2024-7-31
	Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9168	961	2021-9-23	2024-9-22
	Double-ridged waveguide horn antenna	Rohde & Schwarz	HF907	102393	2024-4-14	2027-4-13
	Pre-amplifier	Shenzhen HzEMC	HPA-081843	HYP A23026	2024-4-16	2025-4-15
	Loop antenna	Rohde & Schwarz	HFH2-Z2	100443	2023-6-15	2024-6-14
	Loop antenna	Rohde & Schwarz	HFH2-Z2	100443	2024-6-15	2025-6-14
	Double Ridged Horn Antenna	ETS-Lindgren	3116C	00246076	2023-7-7	2026-7-6
	3m Semi-anechoic chamber	TDK	9X6X6	----	2024-5-8	2027-5-7
	3m Semi-anechoic chamber	TDK	9X6X6	----	2021-5-8	2024-5-7
CE	EMI Test Receiver	Rohde & Schwarz	ESR3	101907	2023-8-1	2024-7-31
	LISN	Rohde & Schwarz	ENV216	101924	2023-8-1	2024-7-31

Measurement Software Information			
Test Item	Software	Manufacturer	Version
C	MTS 8310	MWRFTest	3.0.0.0
RE	EMC 32	Rohde & Schwarz	V10.50.40
CE	EMC 32	Rohde & Schwarz	V9.15.03

C - Conducted RF tests

- Conducted peak output power
- 6dB Occupied Bandwidth
- Power spectral density*
- Conducted Band Edge and Out-of-Band Emissions



11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

Items	Extended Uncertainty
Conducted Disturbance at Mains Terminals	150kHz to 30MHz, LISN, $\pm 3.16\text{dB}$
Radiated Disturbance	30MHz to 1GHz, $\pm 5.03\text{dB}$ (Horizontal) $\pm 5.12\text{dB}$ (Vertical) 1GHz to 18GHz, $\pm 5.15\text{dB}$ (Horizontal) $\pm 5.12\text{dB}$ (Vertical) 18GHz to 25GHz, $\pm 4.76\text{dB}$

Measurement Uncertainty Decision Rule:

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.3.3.



12 Photographs of Test Set-ups

Refer to the < Test Setup photos >.



13 Photographs of EUT

Refer to the < External Photos > & < Internal Photos >.

THE END