

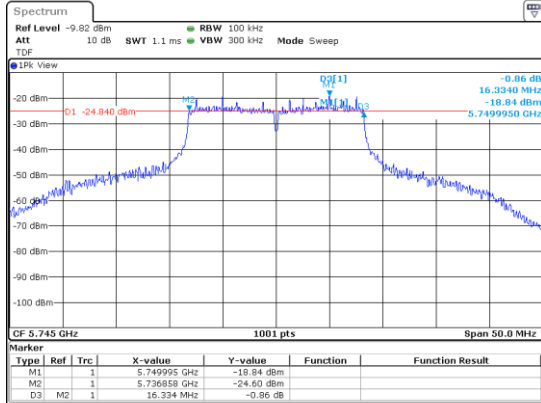


**8.3.2 Measured Results for DC 24 V**

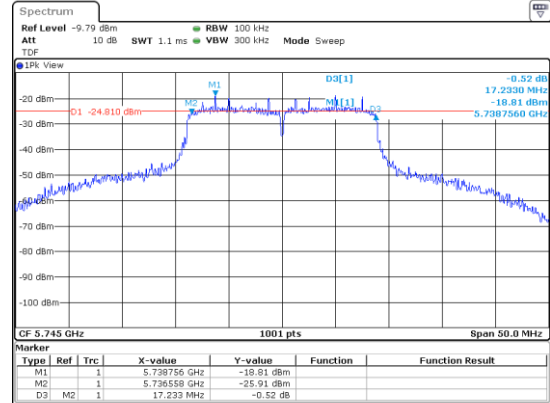
Modulation Type	Band	Frequency (MHz)	Measured Bandwidth (MHz)	Limit (MHz)
802.11a	UNII 3	5 745	16.330	at least 500 kHz
		5 785	15.830	
		5 825	15.980	
802.11n(HT20)	UNII 3	5 745	17.230	
		5 785	16.580	
		5 825	15.880	
802.11n(HT40)	UNII 3	5 755	35.260	
		5 795	35.660	
802.11ac(VHT20)	UNII 3	5 745	16.630	
		5 785	16.280	
		5 825	15.730	
802.11ac(VHT40)	UNII 3	5 755	35.260	
		5 795	35.360	
802.11ac(VHT80)	UNII 3	5 775	73.970	



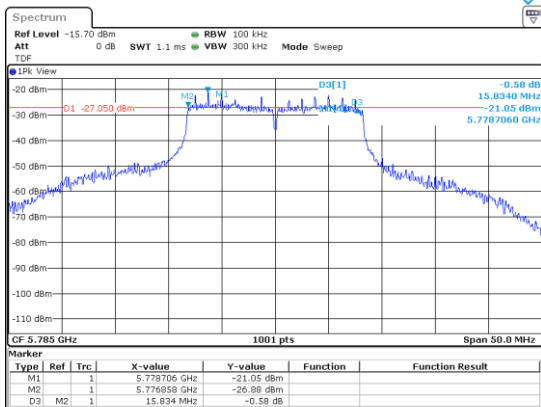
### 8.3.2.1 Measured Graph for Test Data



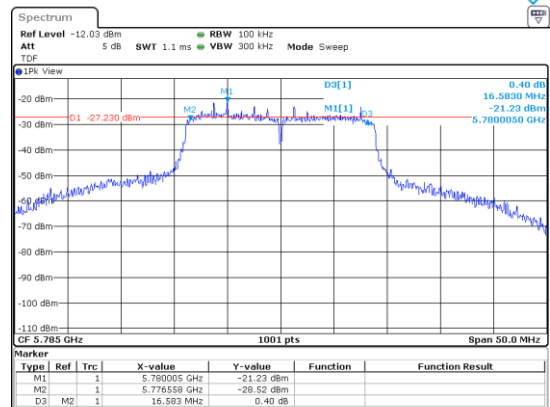
UNII-3 / 802.11a / 5 745 MHz



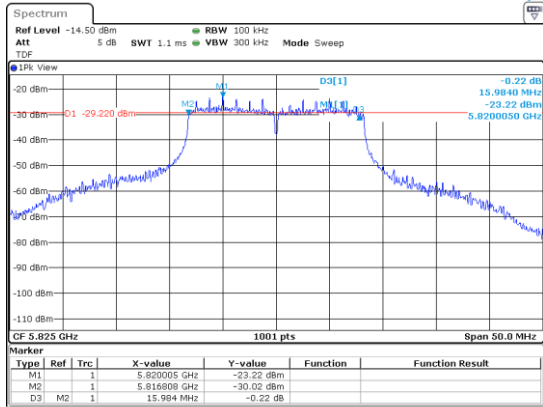
UNII-3 / 802.11n(HT20) / 5 745 MHz



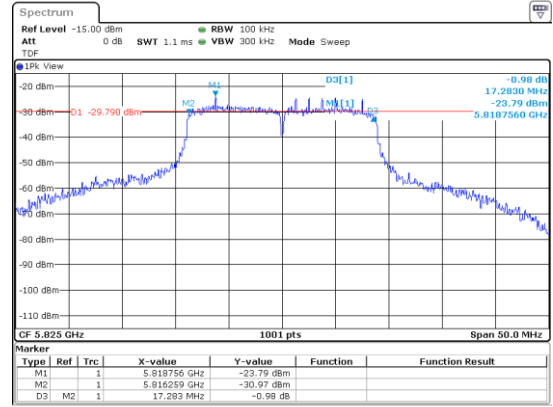
UNII-3 / 802.11a / 5 785 MHz



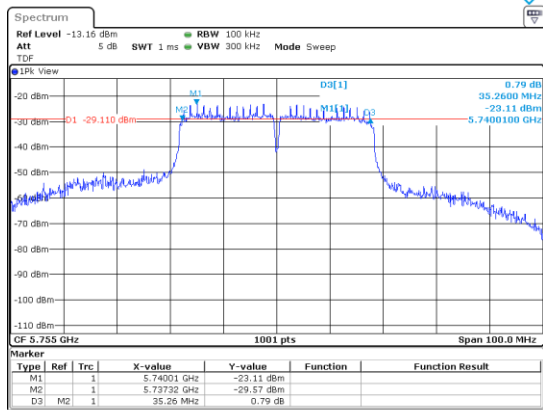
UNII-3 / 802.11n(HT20) / 5 785 MHz



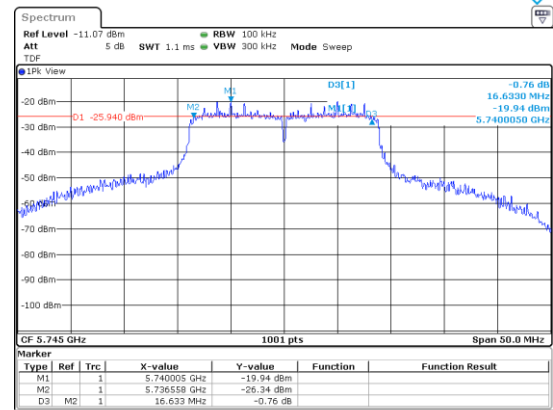
UNII-3 / 802.11a / 5 825 MHz



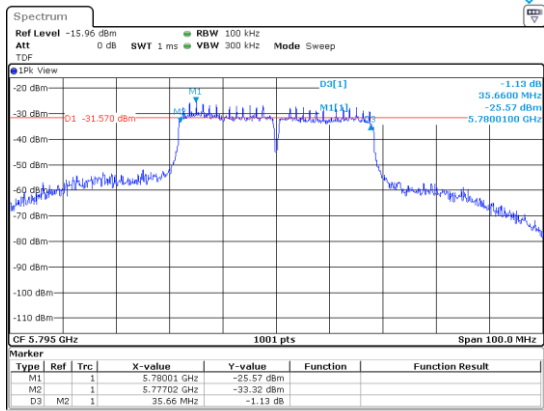
UNII-3 / 802.11n(HT20) / 5 825 MHz



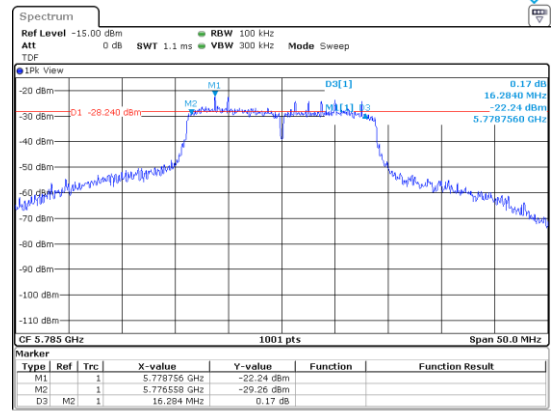
UNII-3 / 802.11n(HT40) / 5 755 MHz



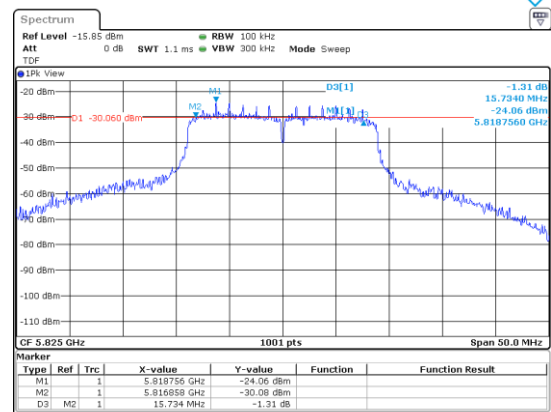
UNII-3 / 802.11ac(VHT20) / 5 745 MHz



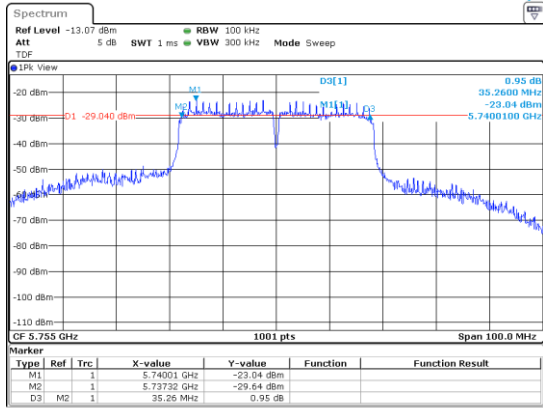
UNII-3 / 802.11n(HT40) / 5 795 MHz



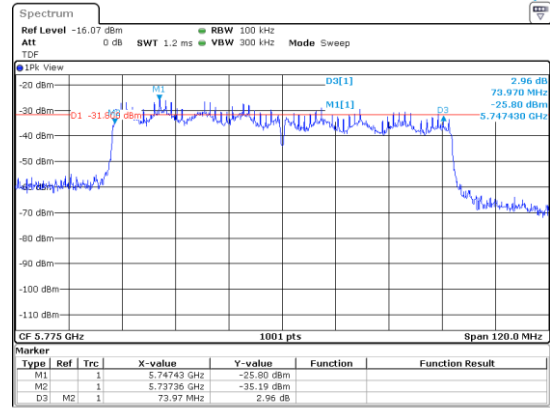
UNII-3 / 802.11ac(VHT20) / 5 785 MHz



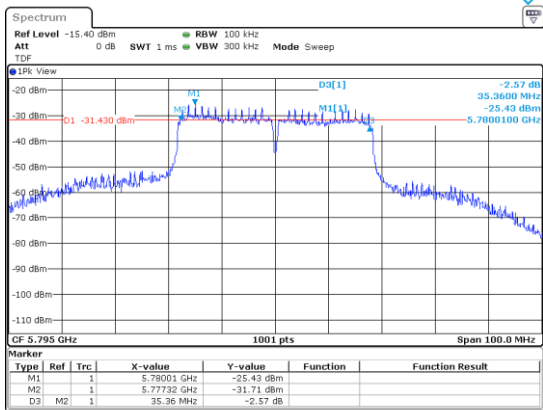
UNII-3 / 802.11ac(VHT20) / 5 825 MHz



UNII-3 / 802.11ac(VHT40) / 5 755 MHz



UNII-3 / 802.11ac(VHT80) / 5 775 MHz



UNII-3 / 802.11ac(VHT40) / 5 795 MHz



## 9. Straddle channels

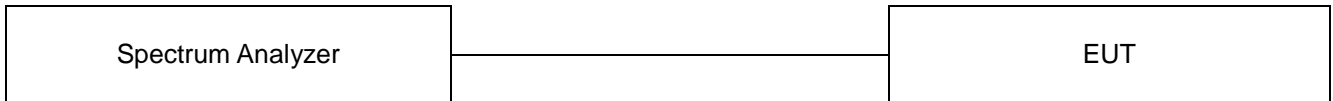
### 9.1 Operating environment

Temperature : 25 °C

Relative humidity : 46 %

### 9.2 Measurement method

Standard : §15.407(a)



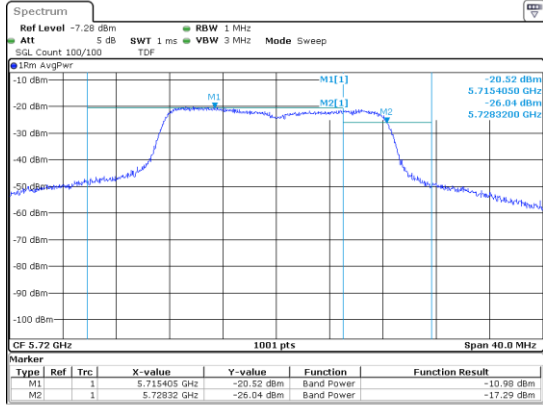


**9.2.1 Measured Results for Maximum conducted output power DC 12 V**

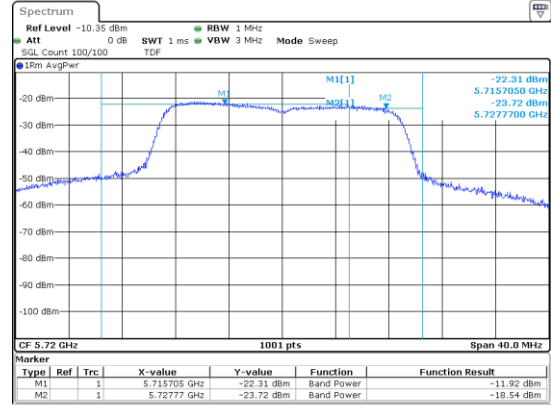
Modulation Type	Band	Frequency (MHz)	Reading Value (dBm)	DCCF (dB)	Result (dBm)	Limit (dBm)
802.11a	UNII 2C	5 720	-10.98	2.41	-8.57	23.98
	UNII 3	5 720	-17.29		-14.88	30.00
802.11n(HT20)	UNII 2C	5 720	-11.92	2.53	-9.39	23.98
	UNII 3	5 720	-18.54		-16.01	30.00
802.11n(HT40)	UNII 2C	5 710	-12.79	4.13	-8.66	23.98
	UNII 3	5 710	-24.94		-20.81	30.00
802.11ac(VHT20)	UNII 2C	5 720	-11.57	2.52	-9.05	23.98
	UNII 3	5 720	-17.81		-15.29	30.00
802.11ac(VHT40)	UNII 2C	5 710	-13.20	4.11	-9.09	23.98
	UNII 3	5 710	-25.15		-21.04	30.00
802.11ac(VHT80)	UNII 2C	5 690	-14.00	6.21	-7.79	23.98
	UNII 3	5 690	-30.19		-23.98	30.00



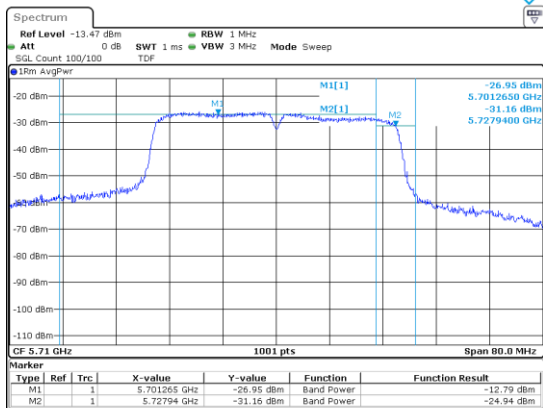
### 9.2.1.1 Measured Graph for Maximum conducted output power



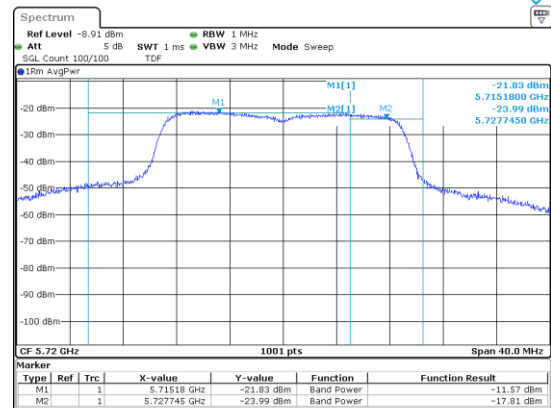
802.11a / 5 720 MHz



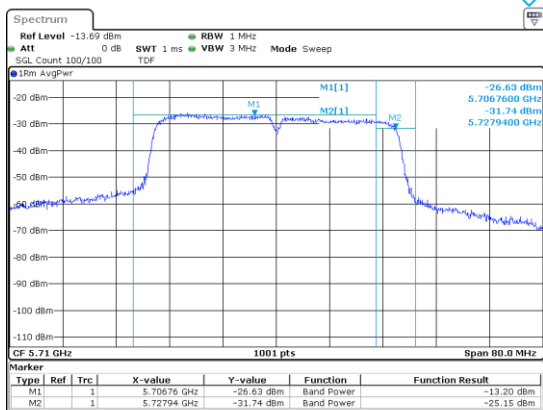
802.11n(HT20) / 5 720 MHz



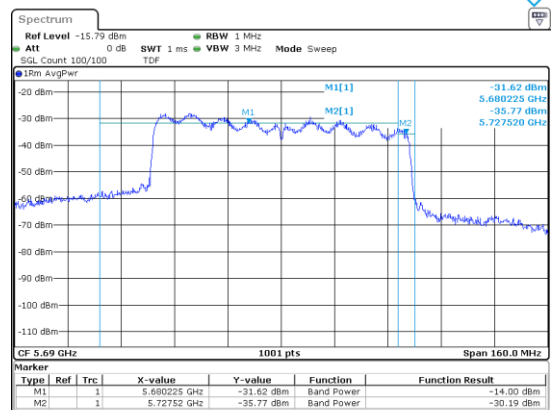
802.11n(HT40) / 5 710 MHz



802.11ac(VHT20) / 5 720 MHz



802.11ac(VHT40) / 5 710 MHz



802.11ac(VHT80) / 5 690 MHz



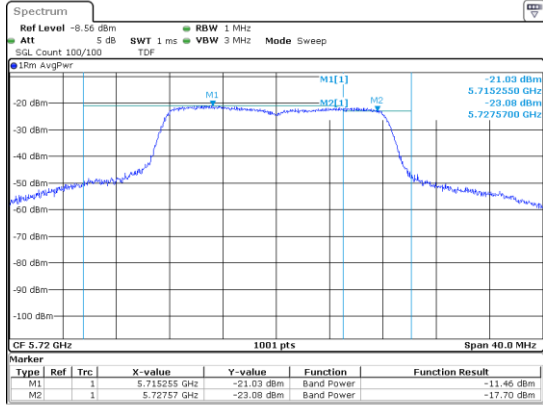


9.2.2 Measured Results for Maximum conducted output power DC 24 V

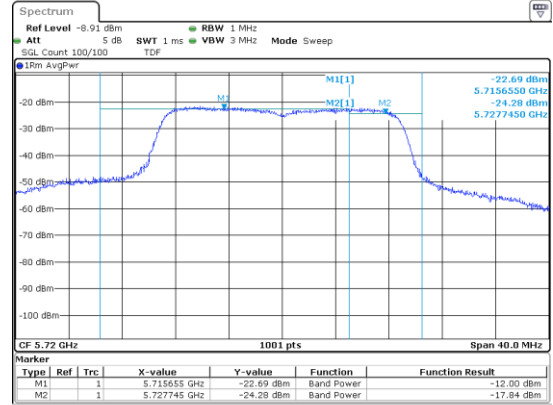
Modulation Type	Band	Frequency (MHz)	Reading Value (dBm)	DCCF (dB)	Result (dBm)	Limit (dBm)
802.11a	UNII 2C	5 720	-11.46	2.40	-9.06	23.98
	UNII 3	5 720	-17.70		-15.30	30.00
802.11n(HT20)	UNII 2C	5 720	-12.00	2.53	-9.47	23.98
	UNII 3	5 720	-17.84		-15.31	30.00
802.11n(HT40)	UNII 2C	5 710	-13.27	4.13	-9.14	23.98
	UNII 3	5 710	-25.71		-21.58	30.00
802.11ac(VHT20)	UNII 2C	5 720	-11.98	2.52	-9.46	23.98
	UNII 3	5 720	-17.99		-15.47	30.00
802.11ac(VHT40)	UNII 2C	5 710	-13.22	4.11	-9.11	23.98
	UNII 3	5 710	-25.56		-21.45	30.00
802.11ac(VHT80)	UNII 2C	5 690	-13.79	6.20	-7.59	23.98
	UNII 3	5 690	-29.71		-23.51	30.00



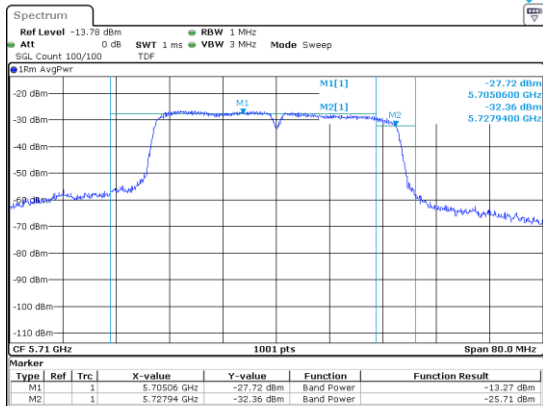
### 9.2.2.1 Measured Graph for Maximum conducted output power



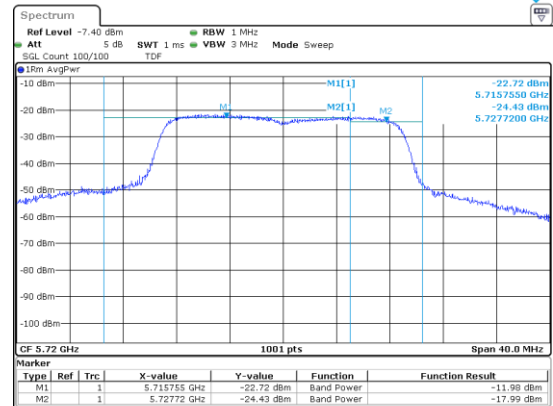
802.11a / 5 720 MHz



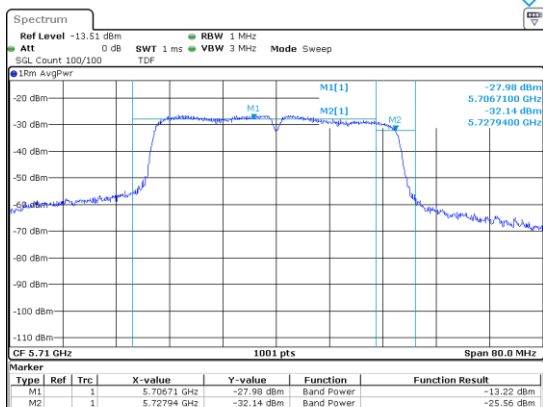
802.11n(HT20) / 5 720 MHz



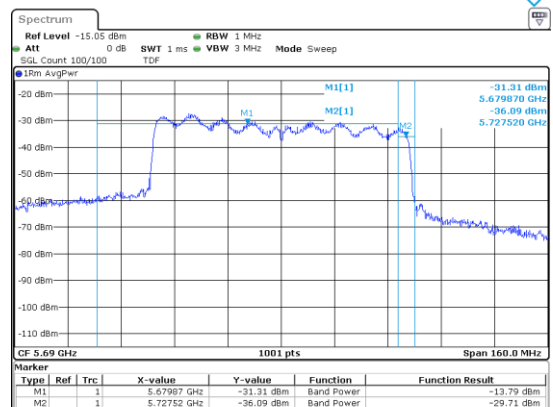
802.11n(HT40) / 5 710 MHz



802.11ac(VHT20) / 5 720 MHz



802.11ac(VHT40) / 5 710 MHz



802.11ac(VHT80) / 5 690 MHz

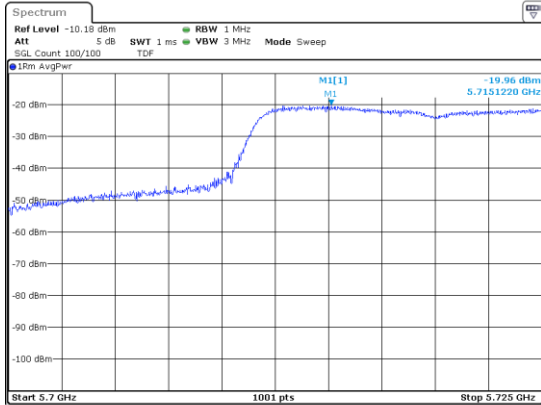


9.2.3 Measured Results for Maximum Power Spectral Density DC 12 V

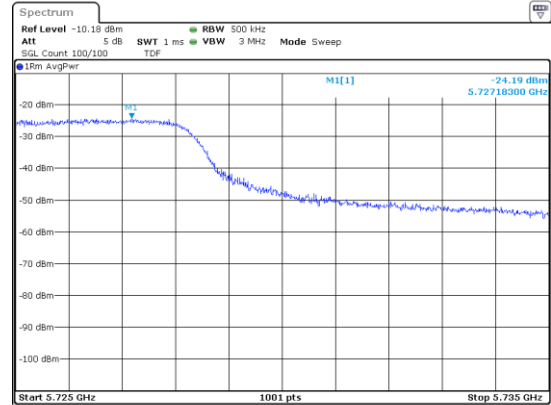
Modulation Type	Band	Frequency (MHz)	Reading Value (dBm)	DCCF (dB)	Result (dBm)	Limit (dBm)
802.11a	UNII 2C	5 720	-19.96	2.41	-17.55	11.00
	UNII 3	5 720	-24.19		-21.78	30.00
802.11n(HT20)	UNII 2C	5 720	-20.59	2.53	-18.06	11.00
	UNII 3	5 720	-24.93		-22.40	30.00
802.11n(HT40)	UNII 2C	5 710	-25.88	4.13	-21.75	11.00
	UNII 3	5 710	-30.42		-26.29	30.00
802.11ac(VHT20)	UNII 2C	5 720	-20.10	2.52	-17.58	11.00
	UNII 3	5 720	-24.44		-21.92	30.00
802.11ac(VHT40)	UNII 2C	5 710	-26.35	4.11	-22.24	11.00
	UNII 3	5 710	-31.17		-27.06	30.00
802.11ac(VHT80)	UNII 2C	5 690	-28.29	6.21	-22.08	11.00
	UNII 3	5 690	-35.29		-29.08	30.00



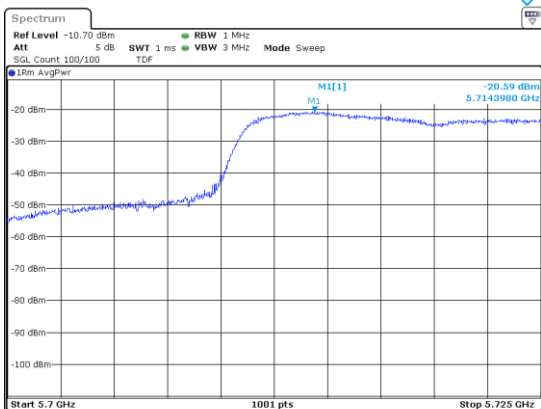
### 9.2.3.1 Measured Graph for Maximum conducted output power



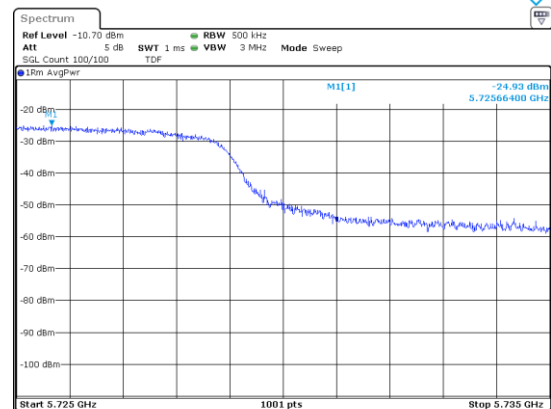
UNII-2C / 802.11a



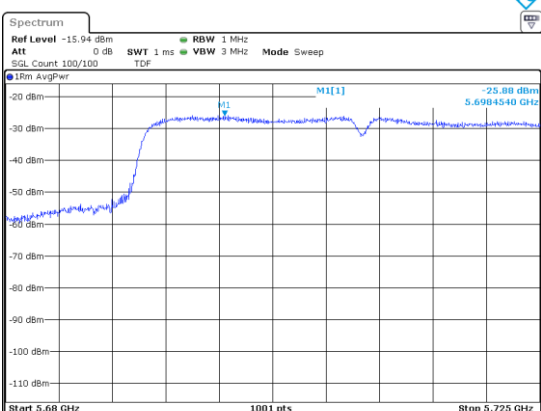
UNII-3 / 802.11a



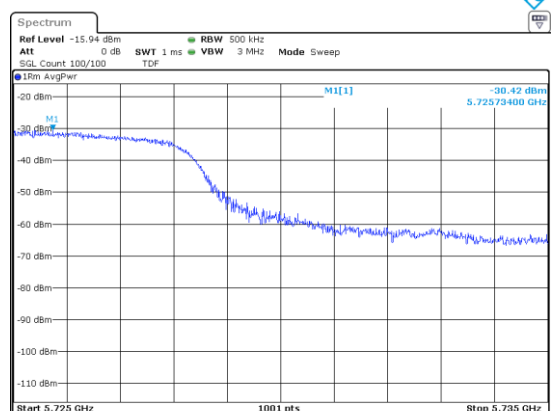
UNII-2C / 802.11n(HT20)



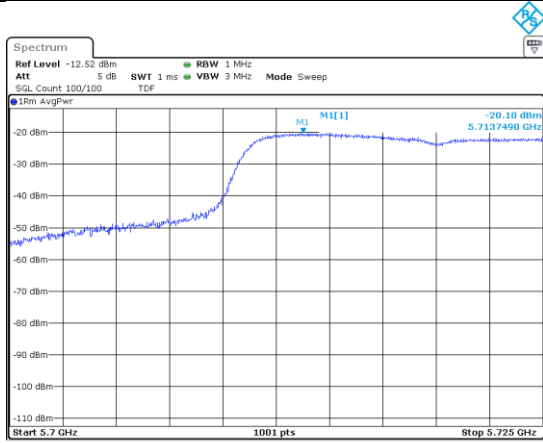
UNII-3 / 802.11n(HT20)



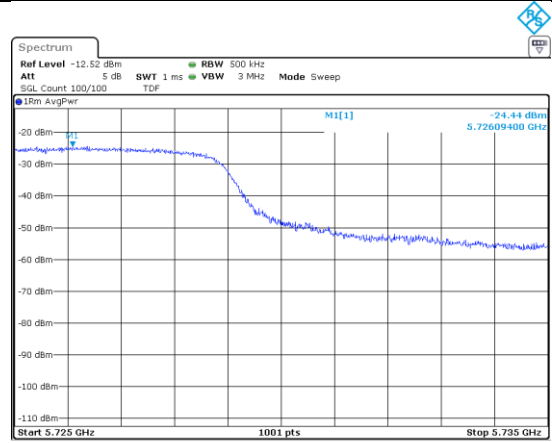
UNII-2C / 802.11n(HT40)



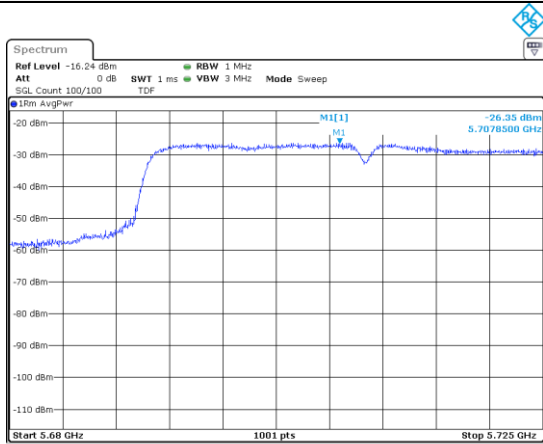
UNII-3 / 802.11n(HT40)



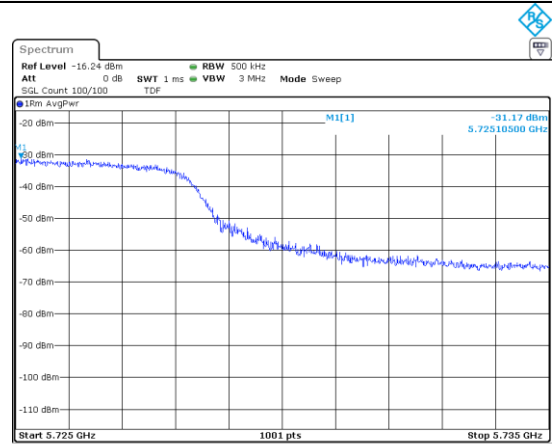
UNII-2C / 802.11ac(VHT20)



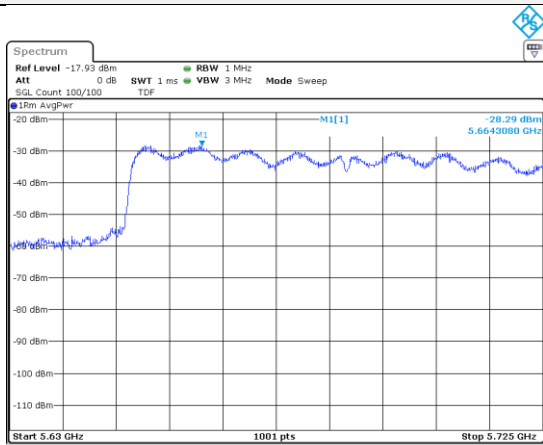
UNII-3 / 802.11ac(VHT20)



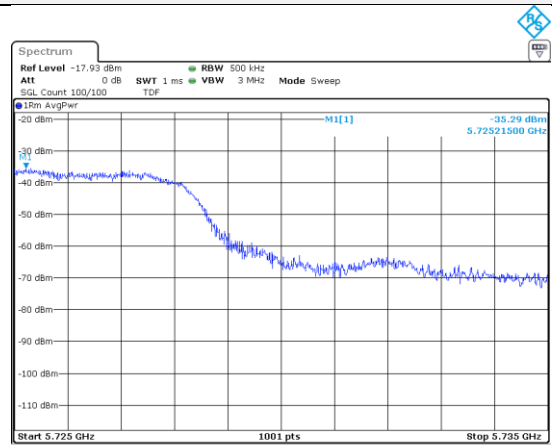
UNII-2C / 802.11ac(VHT40)



UNII-3 / 802.11ac(VHT40)



UNII-2C / 802.11ac(VHT80)



UNII-3 / 802.11ac(VHT80)

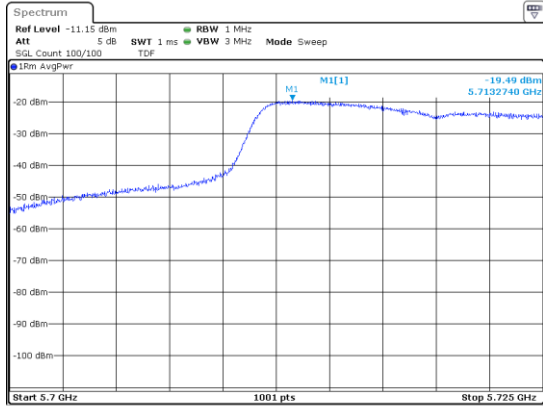


9.2.4 Measured Results for Maximum Power Spectral Density DC 24 V

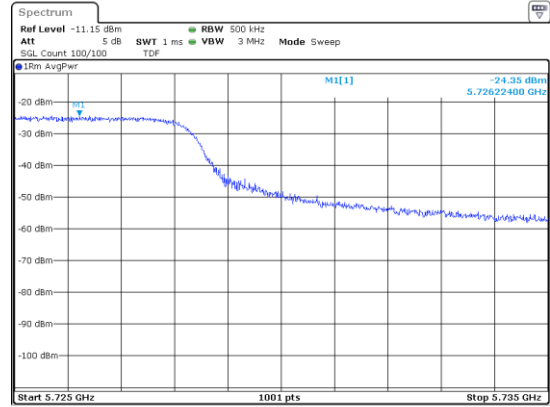
Modulation Type	Band	Frequency (MHz)	Reading Value (dBm)	DCCF (dB)	Result (dBm)	Limit (dBm)
802.11a	UNII 2C	5 720	-19.49	2.40	-17.09	11.00
	UNII 3	5 720	-24.35		-21.95	30.00
802.11n(HT20)	UNII 2C	5 720	-20.94	2.53	-18.41	11.00
	UNII 3	5 720	-24.48		-21.95	30.00
802.11n(HT40)	UNII 2C	5 710	-26.19	4.13	-22.06	11.00
	UNII 3	5 710	-31.52		-27.39	30.00
802.11ac(VHT20)	UNII 2C	5 720	-21.17	2.52	-18.65	11.00
	UNII 3	5 720	-25.91		-23.39	30.00
802.11ac(VHT40)	UNII 2C	5 710	-26.00	4.11	-21.89	11.00
	UNII 3	5 710	-31.90		-27.79	30.00
802.11ac(VHT80)	UNII 2C	5 690	-29.02	6.20	-22.82	11.00
	UNII 3	5 690	-35.92		-29.72	30.00



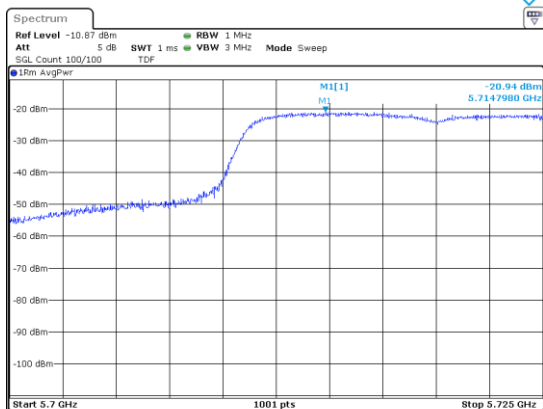
### 9.2.4.1 Measured Graph for Maximum conducted output power



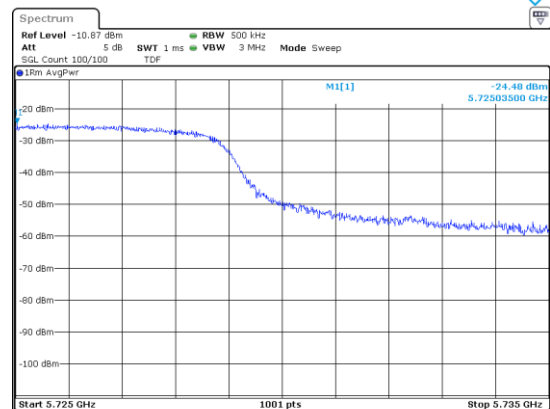
UNII-2C / 802.11a



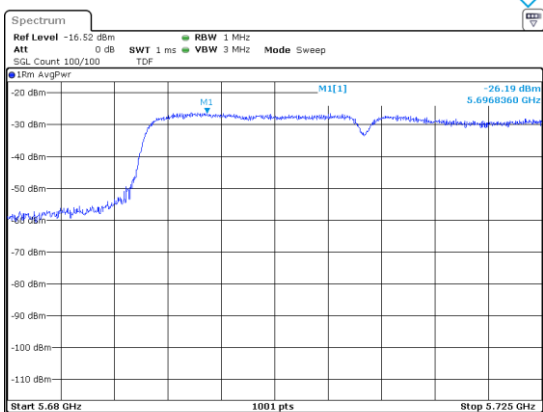
UNII-3 / 802.11a



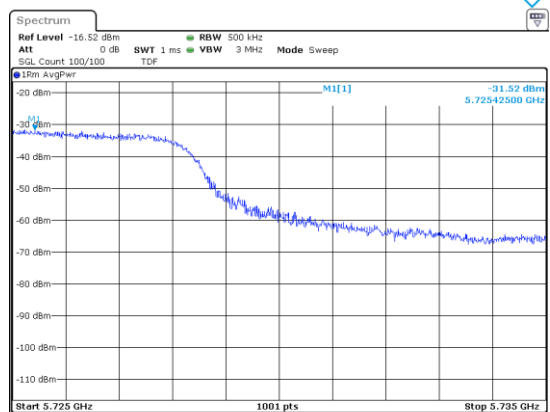
UNII-2C / 802.11n(HT20)



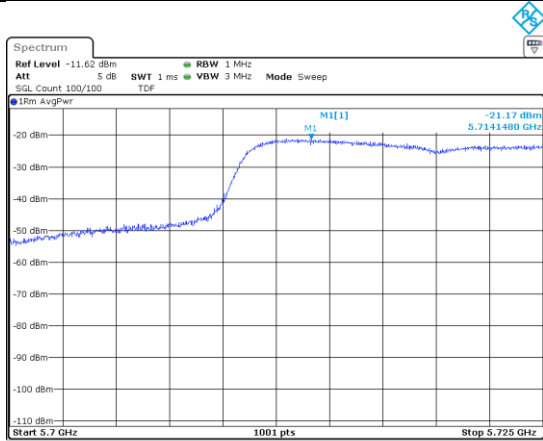
UNII-3 / 802.11n(HT20)



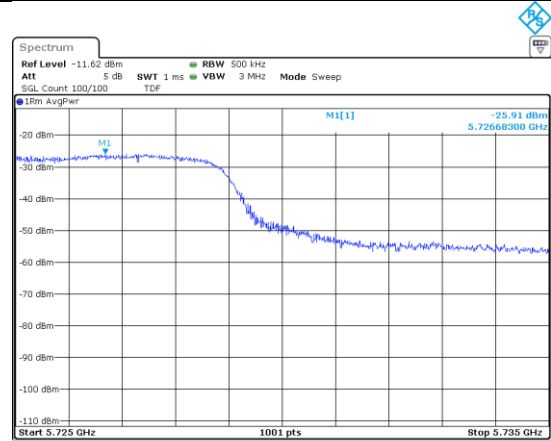
UNII-2C / 802.11n(HT40)



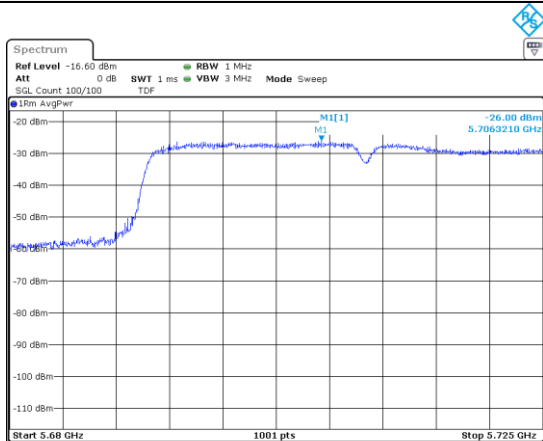
UNII-3 / 802.11n(HT40)



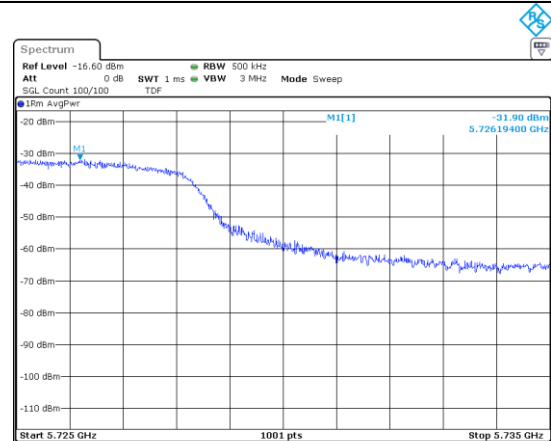
UNII-2C / 802.11ac(VHT20)



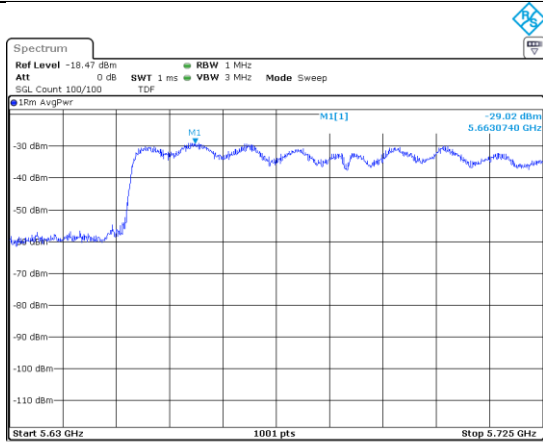
UNII-3 / 802.11ac(VHT20)



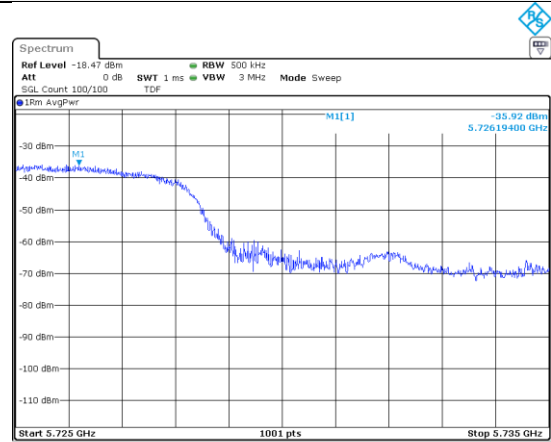
UNII-2C / 802.11ac(VHT40)



UNII-3 / 802.11ac(VHT40)



UNII-2C / 802.11ac(VHT80)



UNII-3 / 802.11ac(VHT80)



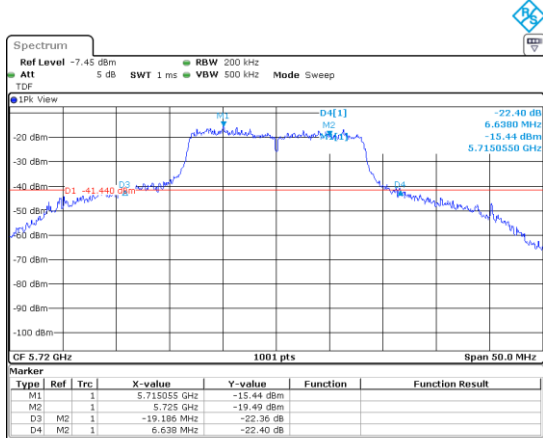


9.2.5 Measured Results for 26 dB Bandwidth DC 12 V

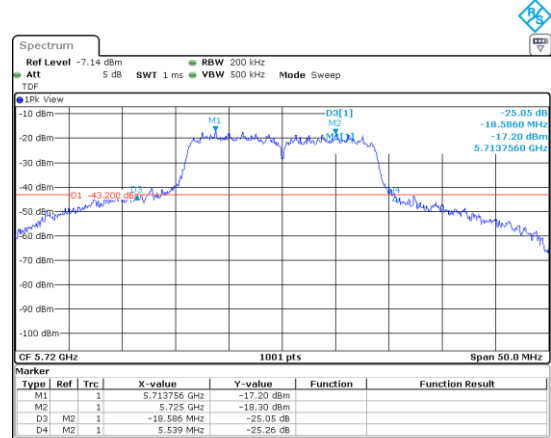
Modulation Type	Band	Frequency (MHz)	Measured Bandwidth (MHz)
802.11a	UNII 2C	5 720	19.49
	UNII 3	5 720	5.14
802.11n(HT20)	UNII 2C	5 720	18.69
	UNII 3	5 720	5.49
802.11n(HT40)	UNII 2C	5 710	39.88
	UNII 3	5 710	5.88
802.11ac(VHT20)	UNII 2C	5 720	18.49
	UNII 3	5 720	5.44
802.11ac(VHT40)	UNII 2C	5 710	36.58
	UNII 3	5 710	5.88
802.11ac(VHT80)	UNII 2C	5 690	90.26
	UNII 3	5 690	5.04



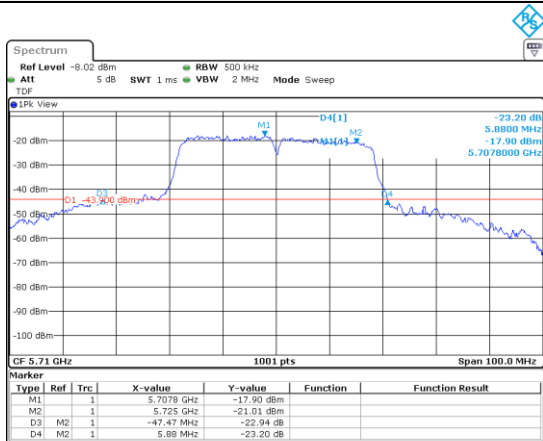
9.2.5.1 Measured Graph for 26 dB Bandwidth



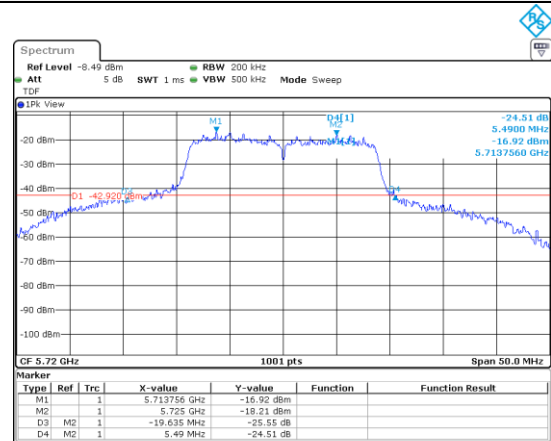
802.11a / 5 720 MHz



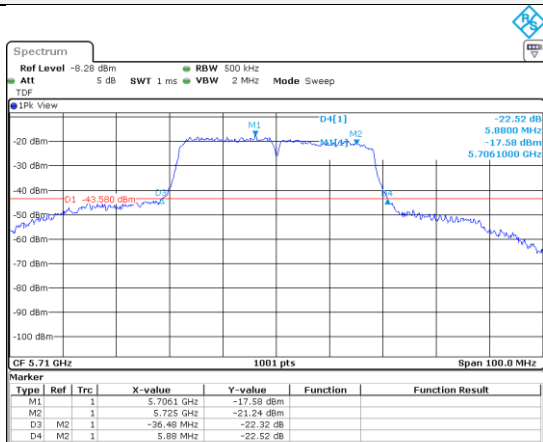
802.11n(HT20) / 5 720 MHz



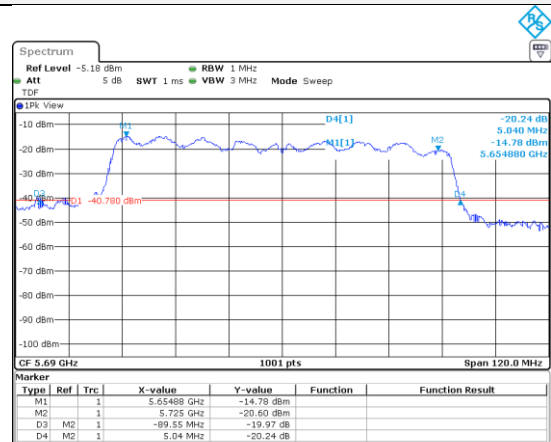
802.11n(HT40) / 5 710 MHz



802.11ac(VHT20) / 5 720 MHz



802.11ac(VHT40) / 5 710 MHz



802.11ac(VHT80) / 5 690 MHz

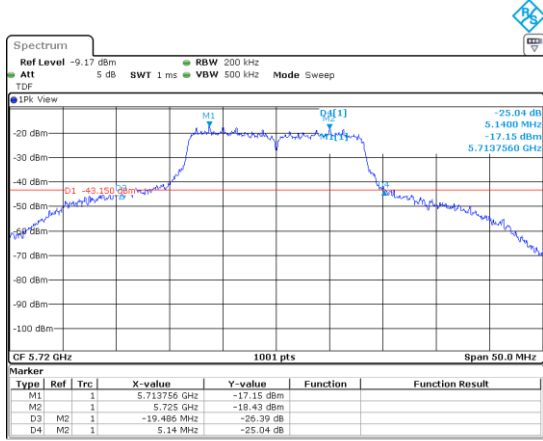


9.2.6 Measured Results for 26 dB Bandwidth DC 24 V

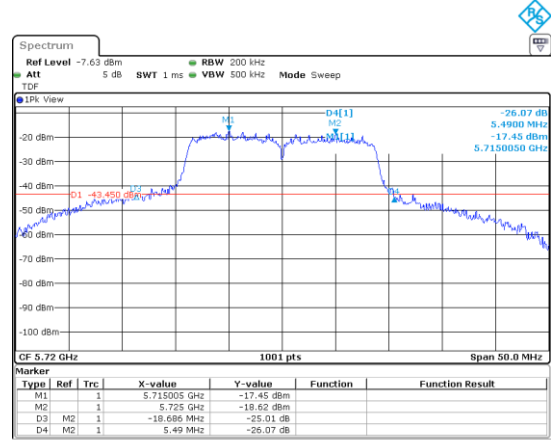
Modulation Type	Band	Frequency (MHz)	Measured Bandwidth (MHz)
802.11a	UNII 2C	5 720	19.19
	UNII 3	5 720	6.64
802.11n(HT20)	UNII 2C	5 720	18.59
	UNII 3	5 720	5.54
802.11n(HT40)	UNII 2C	5 710	47.47
	UNII 3	5 710	5.88
802.11ac(VHT20)	UNII 2C	5 720	19.64
	UNII 3	5 720	5.49
802.11ac(VHT40)	UNII 2C	5 710	36.48
	UNII 3	5 710	5.88
802.11ac(VHT80)	UNII 2C	5 690	89.55
	UNII 3	5 690	5.04



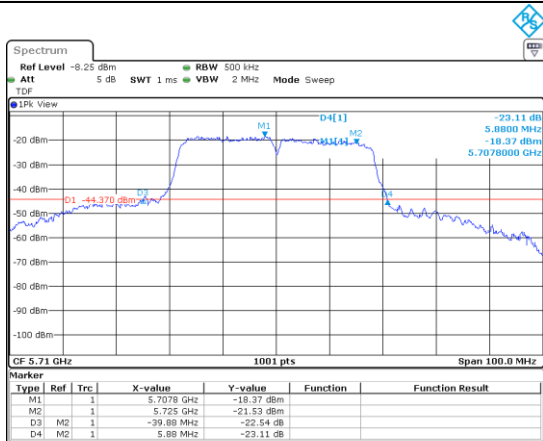
9.2.6.1 Measured Graph for 26 dB Bandwidth



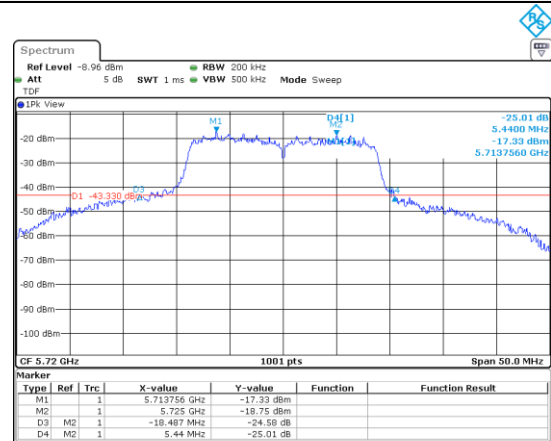
802.11a / 5 720 MHz



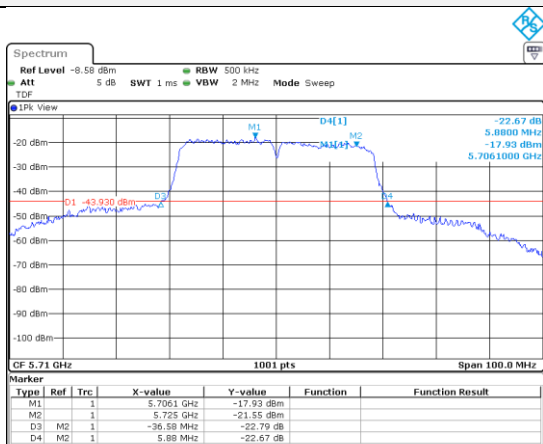
802.11n(HT20) / 5 720 MHz



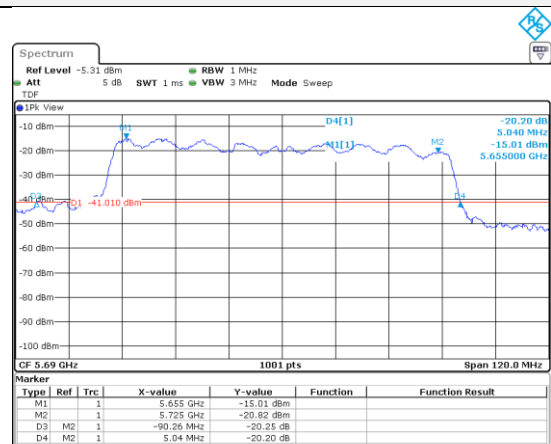
802.11n(HT40) / 5 710 MHz



802.11ac(VHT20) / 5 720 MHz



802.11ac(VHT40) / 5 710 MHz



802.11ac(VHT80) / 5 690 MHz

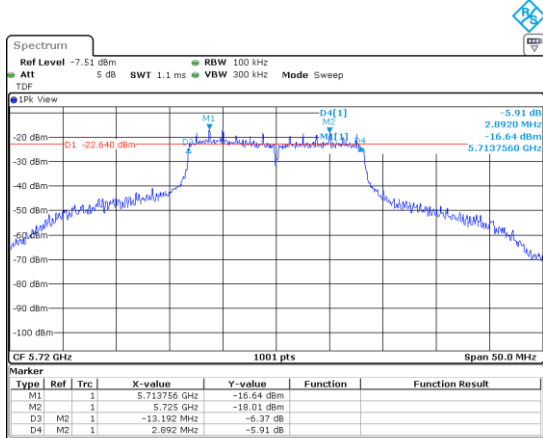


9.2.7 Measured Results for 6 dB Bandwidth DC 12 V

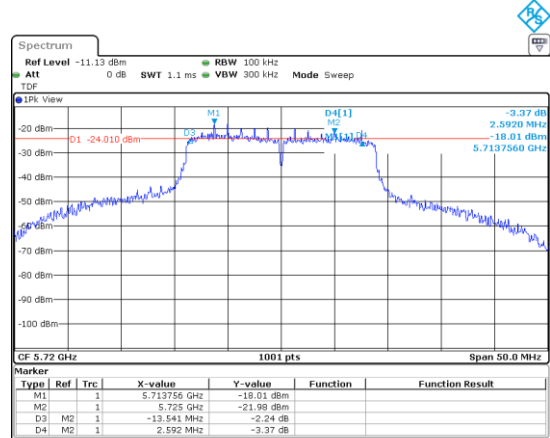
Modulation Type	Band	Frequency (MHz)	Measured Bandwidth (MHz)	Limit (MHz)
802.11a	UNII 3	5 720	2.89	at least 500 kHz
802.11n(HT20)	UNII 3	5 720	2.59	
802.11n(HT40)	UNII 3	5 710	2.68	
802.11ac(VHT20)	UNII 3	5 720	2.59	
802.11ac(VHT40)	UNII 3	5 710	2.68	
802.11ac(VHT80)	UNII 3	5 690	1.32	



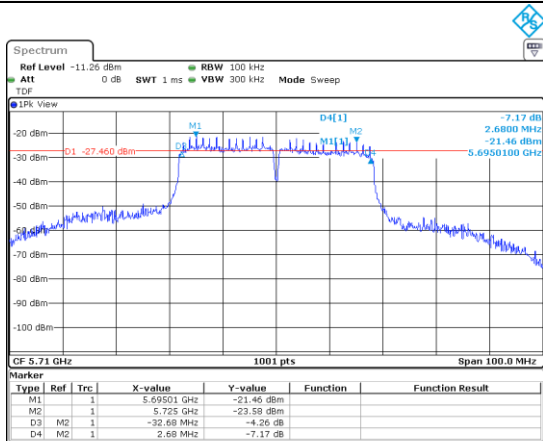
9.2.7.1 Measured Graph for 6 dB Bandwidth



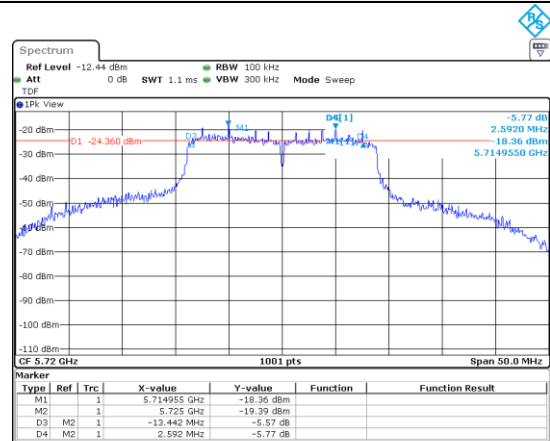
802.11a / 5 720 MHz



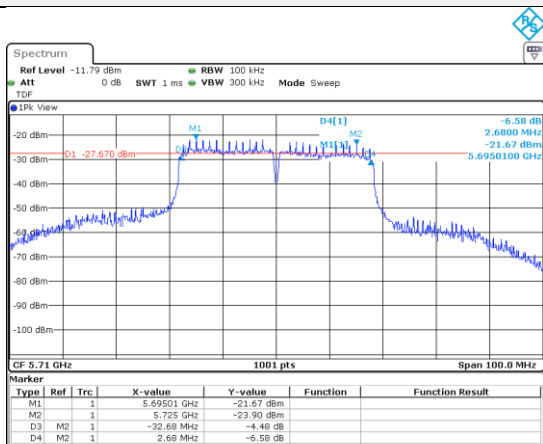
802.11n(HT20) / 5 720 MHz



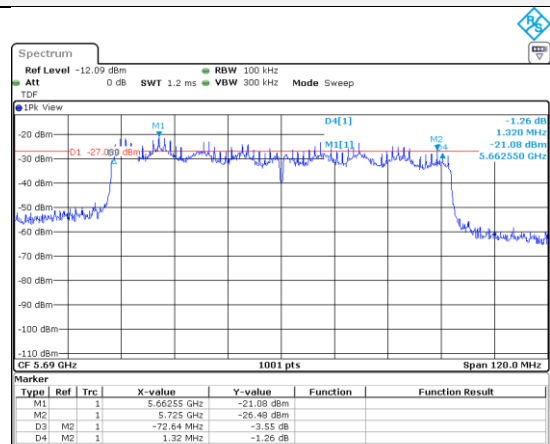
802.11n(HT40) / 5 710 MHz



802.11ac(VHT20) / 5 720 MHz



802.11ac(VHT40) / 5 710 MHz



802.11ac(VHT80) / 5 690 MHz

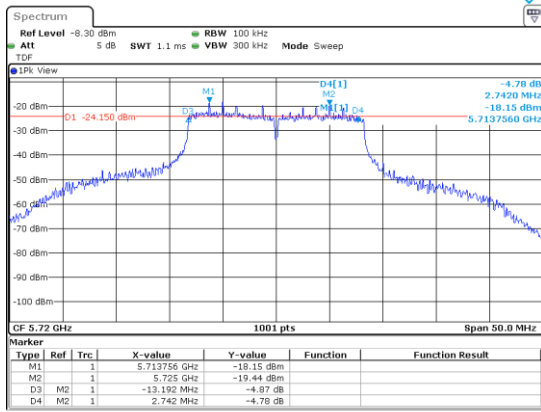


9.2.8 Measured Results for 6 dB Bandwidth DC 24 V

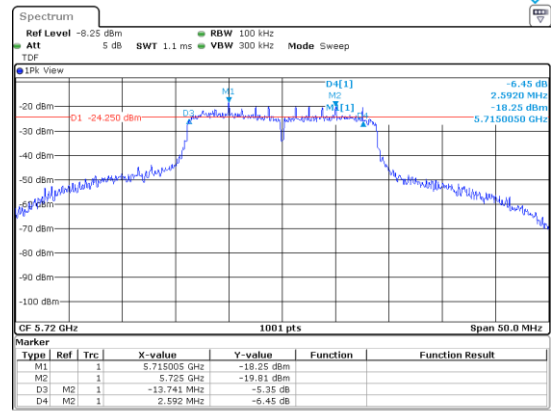
Modulation Type	Band	Frequency (MHz)	Measured Bandwidth (MHz)	Limit (MHz)
802.11a	UNII 3	5 720	2.74	at least 500 kHz
802.11n(HT20)	UNII 3	5 720	2.59	
802.11n(HT40)	UNII 3	5 710	2.68	
802.11ac(VHT20)	UNII 3	5 720	2.59	
802.11ac(VHT40)	UNII 3	5 710	2.68	
802.11ac(VHT80)	UNII 3	5 690	1.20	



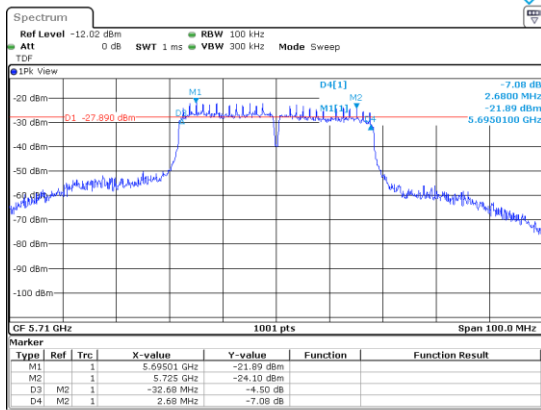
### 9.2.8.1 Measured Graph for 6 dB Bandwidth



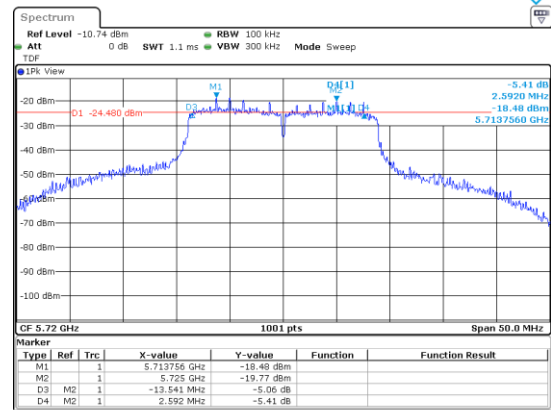
802.11a / 5 720 MHz



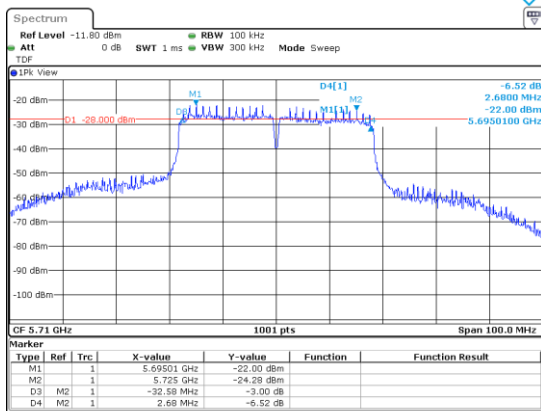
802.11n(HT20) / 5 720 MHz



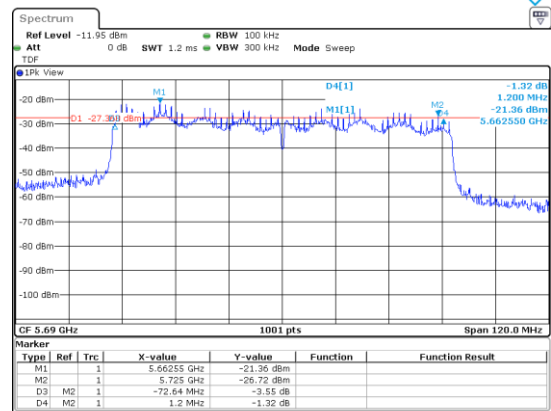
802.11n(HT40) / 5 710 MHz



802.11ac(VHT20) / 5 720 MHz



802.11ac(VHT40) / 5 710 MHz



802.11ac(VHT80) / 5 690 MHz



## 10. Radiated Spurious Emission

### 10.1 Operating environment

Temperature : 24 °C  
Relative humidity : 45 %

### 10.2 Measurement method

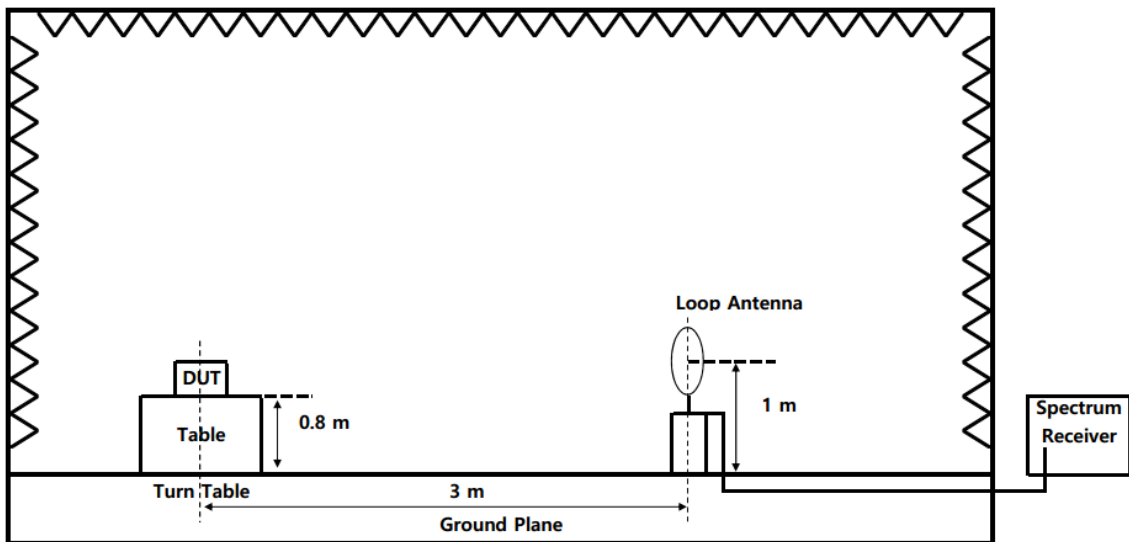
Standard : §15.247 (d), §15.209, §15.205

### 10.3 Test setup

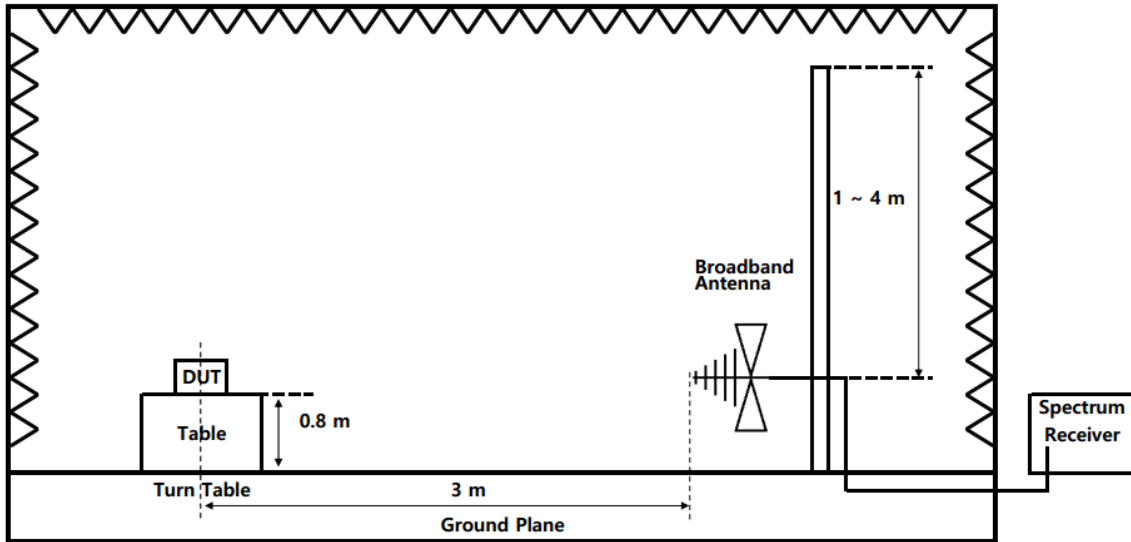
The radiated emissions measurements were performed on the 3 m, Semi-Anechoic Chamber. The EUT was placed on a non-conductive turntable above the ground plane.

The frequency spectrum from 9 kHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

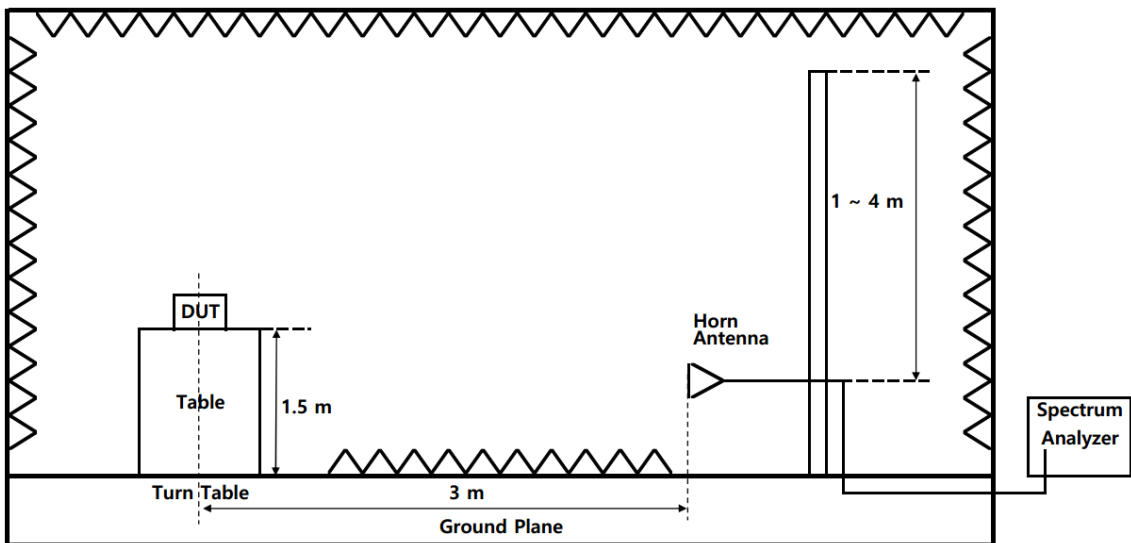
#### 10.3.1 Below 30 MHz



### 10.3.2 30 MHz to 1 GHz



### 10.3.3 Above 1 GHz





10.3.1 Radiated Emissions data for DC 24 V (WLAN 5 GHz)

10.3.1.1 Unwanted Emissions data (1 GHz ~ 40 GHz) : 802.11a

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Poi	EUT Position (Axis)	Detect or Mode	Reading (dBUV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)
U-NII 1	5 180	5 126.89	V	X	PK	55.48	3.24	N/A	N/A	58.72	74.00	15.28
		5 126.51	V	X	AV	42.30	3.24	2.40	N/A	47.94	54.00	6.06
		10 359.36	H	Y	PK	43.91	9.06	N/A	N/A	52.97	68.20	15.23
	5 200	10 398.06	H	Y	PK	45.05	9.07	N/A	N/A	54.12	68.20	14.08
	5 240	10 481.73	H	Y	PK	44.50	9.20	N/A	N/A	53.70	68.20	14.50
U-NII 2A	5 260	10 521.15	H	Y	PK	45.30	9.17	N/A	N/A	54.47	68.20	13.73
	5 300	10 599.57	H	Y	PK	44.77	9.02	N/A	N/A	53.79	68.20	14.41
		10 600.06	H	Y	AV	34.11	9.02	2.40	N/A	45.53	54.00	8.47
	5 320	5 353.08	V	X	PK	51.73	3.87	N/A	N/A	55.60	74.00	18.40
		5 352.69	V	X	AV	41.20	3.87	2.40	N/A	47.47	54.00	6.53
		10 640.98	H	Y	PK	44.38	9.02	N/A	N/A	53.40	74.00	20.60
		10 640.14	H	Y	AV	33.77	9.02	2.40	N/A	45.19	54.00	8.81
U-NII 2C	5 500	5 459.79	V	X	PK	54.72	3.97	N/A	N/A	58.69	74.00	15.31
		5 459.78	V	X	AV	41.62	3.97	2.40	N/A	47.99	54.00	6.01
		5 468.29	V	X	PK	59.95	3.96	N/A	N/A	63.91	68.20	4.29
		10 999.20	H	Y	PK	50.13	8.55	N/A	N/A	58.68	74.00	15.32
		10 999.05	H	Y	AV	37.81	8.55	2.40	N/A	48.76	54.00	5.24
	5 600	11 199.20	H	Y	PK	49.34	8.90	N/A	N/A	58.24	74.00	15.76
		11 199.57	H	Y	AV	37.27	8.91	2.40	N/A	48.58	54.00	5.42
	5 700	11 441.18	H	Y	PK	52.13	9.29	N/A	N/A	61.42	74.00	12.58
		11 441.27	H	Y	AV	39.74	9.29	2.40	N/A	51.43	54.00	2.57
	U-NII 3	5 745	5 713.79	V	X	PK	52.71	3.98	N/A	N/A	56.69	68.20
5 724.45			V	X	PK	68.98	4.46	N/A	N/A	73.44	78.20	4.76
11 491.31			H	Y	PK	51.65	9.46	N/A	N/A	61.11	74.00	12.89
11 490.52			H	Y	AV	39.52	9.46	2.40	N/A	51.38	54.00	2.62
5 785		11 570.80	H	Y	PK	50.99	9.45	N/A	N/A	60.44	74.00	13.56
		11 571.16	H	Y	AV	39.06	9.45	2.40	N/A	50.91	54.00	3.09
5 825		5 851.88	V	X	PK	52.99	4.25	N/A	N/A	57.24	78.20	20.96
		5 867.64	V	X	PK	51.72	4.64	N/A	N/A	56.36	68.20	11.84
		11 650.47	H	Y	PK	52.14	9.52	N/A	N/A	61.66	74.00	12.34
		11 650.16	H	Y	AV	39.52	9.52	2.40	N/A	51.44	54.00	2.56



10.3.1.2 Unwanted Emissions data ( 1 GHz ~ 40 GHz ) : 802.11n(HT20)

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Poi	EUT Position (Axis)	Detect or Mode	Reading (dBUV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)
U-NII 1	5 180	5 127.57	V	X	PK	54.85	3.24	N/A	N/A	58.09	74.00	15.91
		5 126.63	V	X	AV	42.27	3.24	2.53	N/A	48.04	54.00	5.96
		10 360.42	H	Y	PK	43.67	9.06	N/A	N/A	52.73	68.20	15.47
	5 200	10 398.42	H	Y	PK	45.40	9.07	N/A	N/A	54.47	68.20	13.73
	5 240	10 479.00	H	Y	PK	44.54	9.20	N/A	N/A	53.74	68.20	14.46
U-NII 2A	5 260	10 520.35	H	Y	PK	44.51	9.17	N/A	N/A	53.68	68.20	14.52
		10 599.58	H	Y	PK	44.77	9.02	N/A	N/A	53.79	68.20	14.41
	5 300	10 600.03	H	Y	AV	34.35	9.02	2.53	N/A	45.90	54.00	8.10
		5 353.16	V	X	PK	52.44	3.87	N/A	N/A	56.31	74.00	17.69
		5 352.59	V	X	AV	41.25	3.87	2.53	N/A	47.65	54.00	6.35
		10 640.05	H	Y	PK	45.64	9.02	N/A	N/A	54.66	74.00	19.34
		10 640.13	H	Y	AV	33.73	9.02	2.53	N/A	45.28	54.00	8.72
U-NII 2C	5 500	5 456.24	V	X	PK	52.95	3.97	N/A	N/A	56.92	74.00	17.08
		5 456.81	V	X	AV	41.36	3.97	2.53	N/A	47.86	54.00	6.14
		5 462.31	V	X	PK	59.51	3.97	N/A	N/A	63.48	68.20	4.72
		10 999.66	H	Y	PK	47.44	8.55	N/A	N/A	55.99	74.00	18.01
		10 999.59	H	Y	AV	36.01	8.55	2.53	N/A	47.09	54.00	6.91
	5 600	11 199.26	H	Y	PK	49.34	8.91	N/A	N/A	58.25	74.00	15.75
		11 199.49	H	Y	AV	37.11	8.91	2.53	N/A	48.55	54.00	5.45
	5 720	11 439.36	H	Y	PK	50.52	9.31	N/A	N/A	59.83	74.00	14.17
		11 438.94	H	Y	AV	38.46	9.31	2.53	N/A	50.30	54.00	3.70
	U-NII 3	5 745	5 712.78	V	X	PK	52.18	3.98	N/A	N/A	56.16	68.20
5 724.57			V	X	PK	68.83	4.47	N/A	N/A	73.30	78.20	4.90
11 489.36			H	Y	PK	50.89	9.46	N/A	N/A	60.35	74.00	13.65
11 489.50			H	Y	AV	37.95	9.46	2.53	N/A	49.94	54.00	4.06
5 785		11 569.64	H	Y	PK	49.47	9.45	N/A	N/A	58.92	74.00	15.08
		11 569.21	H	Y	AV	37.38	9.45	2.53	N/A	49.36	54.00	4.64
5 825		5 852.35	V	X	PK	51.27	4.26	N/A	N/A	55.53	78.20	22.67
		5 867.12	V	X	PK	51.74	4.62	N/A	N/A	56.36	68.20	11.84
		11 649.12	H	Y	PK	51.29	9.52	N/A	N/A	60.81	74.00	13.19
		11 649.73	H	Y	AV	38.12	9.52	2.53	N/A	50.17	54.00	3.83



10.3.1.3 Unwanted Emissions data(1 GHz ~ 40 GHz) : 802.11n(HT40)

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Poi	EUT Position (Axis)	Detect or Mode	Reading (dBUV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)
U-NII 1	5 190	5 149.83	V	X	PK	52.72	3.33	N/A	N/A	56.05	74.00	17.95
		5 149.85	V	X	AV	40.82	3.33	4.13	N/A	48.28	54.00	5.72
		10 380.70	H	Y	PK	43.71	9.07	N/A	N/A	52.78	68.20	15.42
	5 230	10 462.10	H	Y	PK	44.50	9.20	N/A	N/A	53.70	68.20	14.50
U-NII 2A	5 270	10 542.19	H	Y	PK	44.66	9.13	N/A	N/A	53.79	68.20	14.41
	5 310	5 351.40	V	X	PK	54.93	3.87	N/A	N/A	58.80	74.00	15.20
		5 350.69	V	X	AV	41.94	3.87	4.13	N/A	49.94	54.00	4.06
		10 615.94	H	Y	PK	44.17	9.02	N/A	N/A	53.19	74.00	20.81
		10 615.64	H	Y	AV	33.19	9.02	4.13	N/A	46.34	54.00	7.66
U-NII 2C	5 510	5 459.33	V	X	PK	49.09	3.97	N/A	N/A	53.06	74.00	20.94
		5 458.74	V	X	AV	39.00	3.97	4.13	N/A	47.10	54.00	6.90
		5 468.82	V	X	PK	59.84	3.96	N/A	N/A	63.80	68.20	4.40
		11 019.67	H	Y	PK	47.02	8.58	N/A	N/A	55.60	74.00	18.40
		11 020.50	H	Y	AV	35.16	8.58	4.13	N/A	47.87	54.00	6.13
	5 590	11 179.27	H	Y	PK	46.44	8.88	N/A	N/A	55.32	74.00	18.68
		11 180.16	H	Y	AV	34.83	8.88	4.13	N/A	47.84	54.00	6.16
	5 710	11 416.30	H	Y	PK	46.86	9.28	N/A	N/A	56.14	74.00	17.86
		11 416.80	H	Y	AV	35.13	9.28	4.13	N/A	48.54	54.00	5.46
U-NII 3	5 755	5 714.75	V	X	PK	59.80	3.98	N/A	N/A	63.78	68.20	4.42
		5 722.75	V	X	PK	67.51	4.38	N/A	N/A	71.89	78.20	6.31
		11 510.85	H	Y	PK	48.84	9.48	N/A	N/A	58.32	74.00	15.68
		11 511.21	H	Y	AV	35.59	9.48	4.13	N/A	49.20	54.00	4.80
	5 795	5 855.16	V	X	PK	49.39	4.28	N/A	N/A	53.67	78.20	24.53
		5 865.12	V	X	PK	50.03	4.53	N/A	N/A	54.56	68.20	13.64
		11 591.22	H	Y	PK	47.92	9.47	N/A	N/A	57.39	74.00	16.61
		11 590.41	H	Y	AV	35.07	9.47	4.13	N/A	48.67	54.00	5.33



10.3.1.4 Unwanted Emissions data ( 1 GHz ~ 40 GHz ) : 802.11ac(VHT80)

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Poi	EUT Position (Axis)	Detect or Mode	Reading (dBUV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)
U-NII 1	5 210	5 140.03	V	X	PK	57.08	3.29	N/A	N/A	60.37	74.00	13.63
		5 139.79	V	X	AV	41.51	3.29	6.21	N/A	51.01	54.00	2.99
		10 420.63	H	Y	PK	43.44	9.12	N/A	N/A	52.56	68.20	15.64
U-NII 2A	5 290	5 365.85	V	X	PK	56.89	3.89	N/A	N/A	60.78	74.00	13.22
		5 366.34	V	X	AV	41.11	3.89	6.21	N/A	51.21	54.00	2.79
		10 574.15	H	Y	PK	44.14	9.07	N/A	N/A	53.21	68.20	14.99
U-NII 2C	5 530	5 458.97	V	X	PK	56.55	3.97	N/A	N/A	60.52	74.00	13.48
		5 459.16	V	X	AV	41.62	3.97	6.21	N/A	51.80	54.00	2.20
		5 466.30	V	X	PK	59.00	3.96	N/A	N/A	62.96	68.20	5.24
		11 054.76	H	Y	PK	44.71	8.63	N/A	N/A	53.34	74.00	20.66
	5 610	11 053.76	H	Y	AV	34.50	8.63	6.21	N/A	49.34	54.00	4.66
		11 219.99	H	Y	PK	44.89	8.93	N/A	N/A	53.82	74.00	20.18
	5 690	11 219.60	H	Y	AV	34.18	8.93	6.21	N/A	49.32	54.00	4.68
		11 380.16	H	Y	PK	44.68	9.20	N/A	N/A	53.88	74.00	20.12
U-NII 3	5 775	11 379.90	H	Y	AV	33.55	9.20	6.21	N/A	48.96	54.00	5.04
		5 714.84	V	X	PK	57.02	3.98	N/A	N/A	61.00	68.20	7.20
		5 721.63	V	X	PK	61.48	4.32	N/A	N/A	65.80	78.20	12.40
		5 850.84	V	X	PK	59.21	4.25	N/A	N/A	63.46	78.20	14.74
		5 865.08	V	X	PK	58.81	4.53	N/A	N/A	63.34	68.20	4.86
		11 549.83	H	Y	PK	44.92	9.44	N/A	N/A	54.36	74.00	19.64
		11 549.57	H	Y	AV	33.89	9.44	6.21	N/A	49.54	54.00	4.46



### 10.3.2 Radiated Emissions data for DC 24 V (WLAN 5 GHz)

#### 10.3.2.1 Worst case data : 802.11a

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detect or Mode	Reading (dBuV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 3	5 825	11 649.52	H	Y	PK	53.36	9.52	N/A	N/A	62.88	74.00	11.12
		11 649.82	H	Y	AV	40.62	9.52	2.40	N/A	52.54	54.00	1.46

#### 10.3.2.2 Worst case data : 802.11ac(VHT80)

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detect or Mode	Reading (dBuV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 2C	5 530	5 459.32	V	X	PK	57.19	3.97	N/A	N/A	61.16	74.00	12.84
		5 459.33	V	X	AV	39.34	3.97	6.21	N/A	49.52	54.00	4.48
		5 466.19	V	X	PK	58.63	3.96	N/A	N/A	62.59	68.20	5.61



## 11. Power Line Conducted Emission

### 11.1 Operating environment

Temperature : 24 °C

Relative humidity : 44 %

### 11.2 Measurement method

Standard : §15.207

### 11.3 Test setup

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50  $\Omega$  / 50  $\mu$ H + 5  $\Omega$  Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.





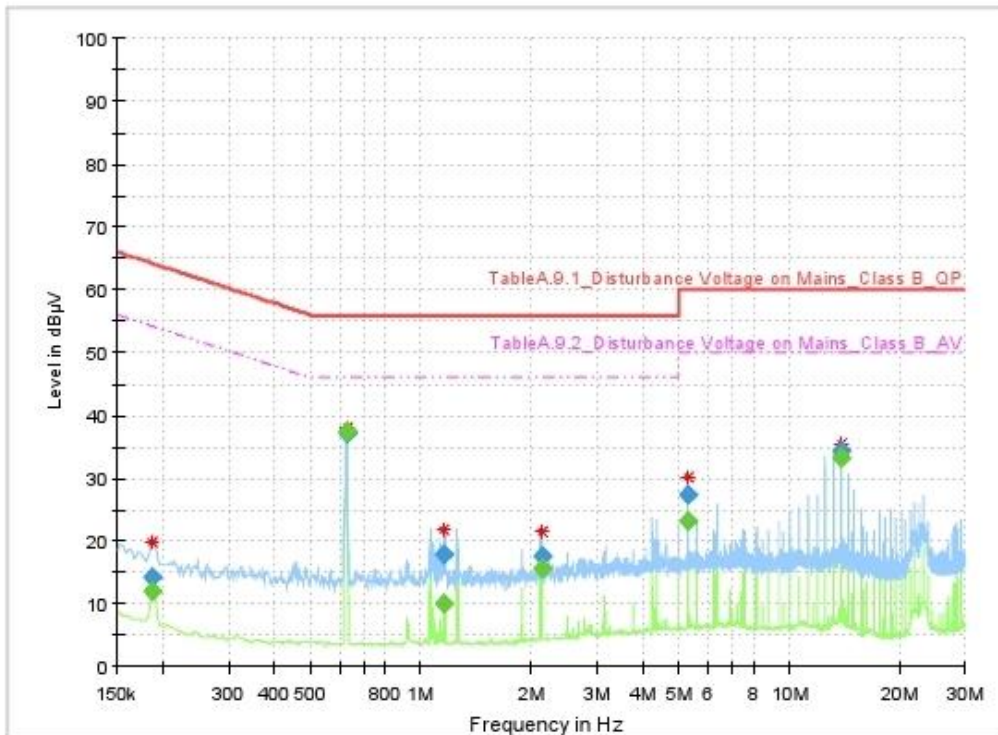


### 11.4 Test data

Operating mode : Transmit mode

Test Result : Pass

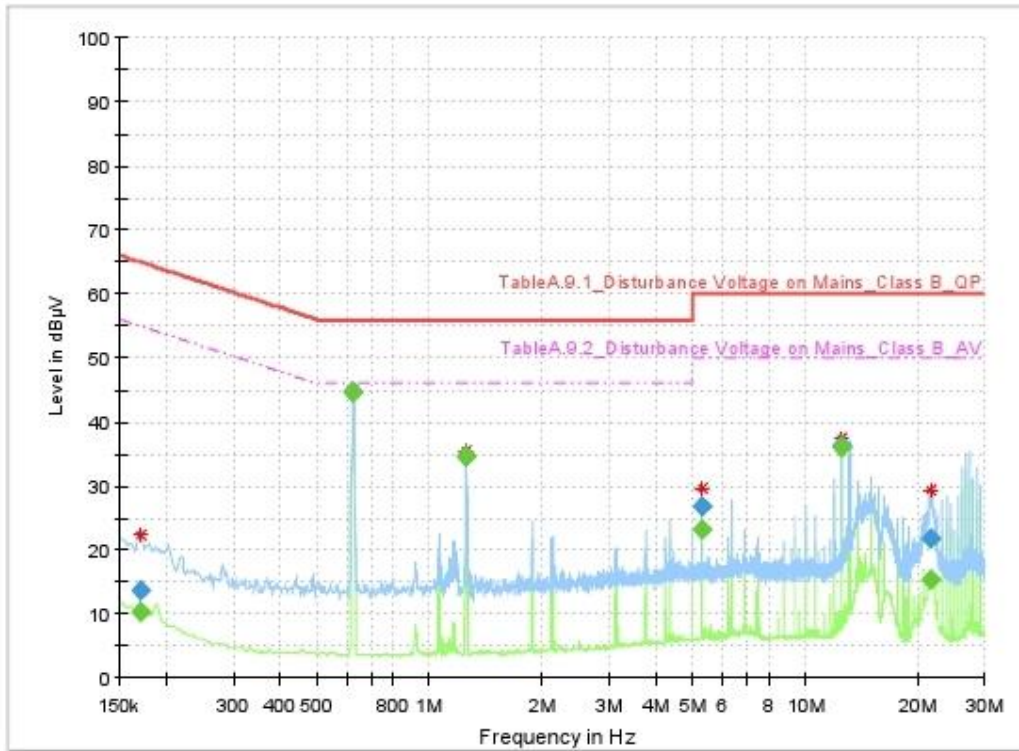
#### 11.4.1 Measured Results & Graph



### Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.186	---	12.11	54.21	42.11	1000.0	9.000	N	FLO	10.51
0.186	14.19	---	64.21	50.03	1000.0	9.000	N	FLO	10.51
0.627	---	37.32	46.00	8.68	1000.0	9.000	N	FLO	10.39
0.627	37.23	---	56.00	18.77	1000.0	9.000	N	FLO	10.39
1.158	---	9.99	46.00	36.01	1000.0	9.000	N	FLO	10.38
1.158	17.75	---	56.00	38.25	1000.0	9.000	N	FLO	10.38
2.123	---	15.76	46.00	30.24	1000.0	9.000	N	FLO	10.37
2.123	17.67	---	56.00	38.33	1000.0	9.000	N	FLO	10.37
5.307	---	23.31	50.00	26.69	1000.0	9.000	N	FLO	10.42
5.307	27.24	---	60.00	32.76	1000.0	9.000	N	FLO	10.42
13.776	---	33.35	50.00	16.65	1000.0	9.000	N	FLO	10.47
13.776	34.34	---	60.00	25.66	1000.0	9.000	N	FLO	10.47

Live line



### Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.170	---	10.41	54.95	44.54	1000.0	9.000	N	FLO	10.54
0.170	13.79	---	64.95	51.16	1000.0	9.000	N	FLO	10.54
0.625	---	44.69	46.00	1.31	1000.0	9.000	N	FLO	10.39
0.625	44.62	---	56.00	11.38	1000.0	9.000	N	FLO	10.39
1.253	---	34.54	46.00	11.46	1000.0	9.000	N	FLO	10.38
1.253	34.53	---	56.00	21.47	1000.0	9.000	N	FLO	10.38
5.307	---	23.14	50.00	26.86	1000.0	9.000	N	FLO	10.42
5.307	26.92	---	60.00	33.08	1000.0	9.000	N	FLO	10.42
12.514	---	35.90	50.00	14.10	1000.0	9.000	N	FLO	10.50
12.514	36.34	---	60.00	23.66	1000.0	9.000	N	FLO	10.50
21.437	---	15.46	50.00	34.54	1000.0	9.000	N	FLO	10.66
21.437	21.92	---	60.00	38.08	1000.0	9.000	N	FLO	10.66

Neutral line

- END -