003 11



# PIFA Ant.

Band Edges test (Band UNII-1 / Band UNII-2A, 802.11a mode) -Radiated								
Opera	tion Mode	TZ	K CH Low	V	1	Test Date	2022/11/11	
Chanr	nel Number	51	80 MHz			1	Test By	Barry
Temp	erature	25					Humidity	65 %
				1	1		1	
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	57.40	-5.11	52.29	54.00	-1.71	Average	VERTICAL
2	5150.00	71.41	-5.11	66.30	68.20	-1.90	Peak	VERTICAL
3	5184.48	115.37	-4.90	110.47	F		Peak	VERTICAL
1	5150.00	57.21	-5.11	52.10	54.00	-1.90	Average	HORIZONTAL
2	5150.00	65.89	-5.11	60.78	68.20	-7.42	Peak	HORIZONTAL
3	5186.55	98.20	-4.89	93.31	F		Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.



Operation Mode	TX CH High
Channel Number	5320MHz
Temperature	25

Test Date2022/11/11Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5321.20	114.59	-4.53	110.06	F		Peak	VERTICAL
2	5350.00	57.22	-4.50	52.72	54.00	-1.28	Average	VERTICAL
3	5350.00	70.42	-4.50	65.92	68.20	-2.28	Peak	VERTICAL
1	5324.70	101.49	-4.53	96.96	F		Peak	HORIZONTAL
2	5350.00	56.99	-4.50	52.49	54.00	-1.51	Average	HORIZONTAL
3	5350.00	65.56	-4.50	61.06	68.20	-7.14	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.

Peak

Average

Peak

Peak

VERTICAL

HORIZONTAL

HORIZONTAL

HORIZONTAL



Chanı	ation Mode nel Number perature		X CH Low 80 MHz	V			Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	56.75	-5.11	51.64	54.00	-2.36	Average	VERTICAL
2	5150.00	71.64	-5.11	66.53	68.20	-1.67	Peak	VERTICAL

F

54.00

68.20

F

-3.07

-7.53

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109.12

50.93

60.67

91.94

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## Band Edges test (Band UNII-1 / Band UNII-2A, 802.11n HT20 mode) -Radiated

Remark:

3

1

2

3

5150.00

5150.00

5187.24

5187.24 114.01 -4.89

56.04

65.78

96.83

-5.11

-5.11

-4.89

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Test By	2022/11/11
Channel Number	5320MHz		Barry
Temperature	25	Humidity	65 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5325.54	113.74	-4.53	109.21	F		Peak	VERTICAL
2	5350.00	56.84	-4.50	52.34	54.00	-1.66	Average	VERTICAL
3	5350.00	70.44	-4.50	65.94	68.20	-2.26	Peak	VERTICAL
1	5316.72	100.09	-4.54	95.55	F		Peak	HORIZONTAL
2	5350.00	54.24	-4.50	49.74	54.00	-4.26	Average	HORIZONTAL
3	5350.00	65.54	-4.50	61.04	68.20	-7.16	Peak	HORIZONTAL

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Chan	ation Mode nel Number perature		X CH Low 90 MHz	V		,	Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	56.30	-5.11	51.19	54.00	-2.81	Average	VERTICAL
2	5150.00	70.79	-5.11	65.68	68.20	-2.52	Peak	VERTICAL
3	5197.93	110.92	-4.84	106.08	F		Peak	VERTICAL
1	5150.00	56.24	-5.11	51.13	54.00	-2.87	Average	HORIZONTAL
2	5150.00	66.40	-5.11	61.29	68.20	-6.91	Peak	HORIZONTAL
3	5191.54	93.68	-4.87	88.81	F		Peak	HORIZONTAL

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#### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11n HT40 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



1

Operation Mode	TX CH High	Test Date	2022/11/12
Channel Number	5310MHz	Test By	Barry
Temperature	25	Humidity	65 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5318.48	109.98	-4.54	105.44	F		Peak	VERTICAL
2	5350.00	56.84	-4.50	52.34	54.00	-1.66	Average	VERTICAL
3	5350.00	69.87	-4.50	65.37	68.20	-2.83	Peak	VERTICAL
1	5322.48	96.00	-4.53	91.47	F		Peak	HORIZONTAL
2	5350.00	53.60	-4.50	49.10	54.00	-4.90	Average	HORIZONTAL
3	5350.00	65.83	-4.50	61.33	68.20	-6.87	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode Channel Number Temperature			X CH Low 10 MHz	<i>V</i>		,	Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	54.24	-5.11	49.13	54.00	-4.87	Average	VERTICAL
2	5150.00	70.49	-5.11	65.38	68.20	-2.82	Peak	VERTICAL
3	5236.50	106.45	-4.70	101.75	F		Peak	VERTICAL
1	5150.00	54.17	-5.11	49.06	54.00	-4.94	Average	HORIZONTAL
2	5150.00	66.69	-5.11	61.58	68.20	-6.62	Peak	HORIZONTAL
3	5222.25	93.57	-4.75	88.82	F		Peak	HORIZONTAL

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#### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11ac VHT80 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High
Channel Number	5290MHz
Temperature	25

Test Date	2022/11/11
Test By	Barry
Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5296.40	105.87	-4.57	101.30	F		Peak	VERTICAL
2	5350.00	56.93	-4.50	52.43	54.00	-1.57	Average	VERTICAL
3	5350.00	70.09	-4.50	65.59	68.20	-2.61	Peak	VERTICAL
1	5315.40	91.25	-4.55	86.70	F		Peak	HORIZONTAL
2	5350.00	54.32	-4.50	49.82	54.00	-4.18	Average	HORIZONTAL
3	5350.00	66.50	-4.50	62.00	68.20	-6.20	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Chanı	ation Mode nel Number perature		X CH Low 600 MHz	V	,		Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5460.00	55.24	-4.21	51.03	54.00	-2.97	Average	VERTICAL
2	5460.00	69.80	-4.21	65.59	68.20	-2.61	Peak	VERTICAL

68.20

F

54.00

68.20

68.20

F

-3.31

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-6.47

-6.93

-6.97

Peak

Peak

Average

Peak

Peak

Peak

VERTICAL

VERTICAL

HORIZONTAL

HORIZONTAL

HORIZONTAL

HORIZONTAL

64.89

111.34

47.53

61.27

61.23

97.05

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## Band Edges test (Band UNII-2C, 802.11a mode) -Radiated

-4.17

-4.08

-4.21

-4.21

-4.17

-4.07

Remark:

3

4

1

2

3

4

5470.00

5494.16

5460.00

5460.00

5470.00

5495.37

69.06

115.42

51.74

65.48

65.40

101.12

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2022/11/11
Channel Number	5700MHz	Test By	Barry
Temperature	25	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5695.44	114.45	-3.38	111.07	F		Peak	VERTICAL
2	5725.00	68.02	-3.25	64.77	68.20	-3.43	Peak	VERTICAL
1	5705.52	96.11	-3.32	92.79	F		Peak	HORIZONTAL
2	5725.00	65.72	-3.25	62.47	68.20	-5.73	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.

HORIZONTAL

Peak



Operation Mode Channel Number Temperature				X CH Low 600 MHz	V			Test Date Test By Humidity	2022/11/11 Barry 65 %
	No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
	1	5460.00	53.47	-4.21	49.26	54.00	-4.74	Average	VERTICAL
	2	5460.00	66.15	-4.21	61.94	68.20	-6.26	Peak	VERTICAL
	3	5470.00	71.38	-4.17	67.21	68.20	-0.99	Peak	VERTICAL
	4	5497.68	114.53	-4.06	110.47	F		Peak	VERTICAL
	1	5460.00	53.24	-4.21	49.03	54.00	-4.97	Average	HORIZONTAL
	2	5460.00	65.63	-4.21	61.42	68.20	-6.78	Peak	HORIZONTAL
	3	5470.00	66.23	-4.17	62.06	68.20	-6.14	Peak	HORIZONTAL

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#### Band Edges test (Band UNII-2C, 802.11n HT20 mode) -Radiated

4 5495.26 100.14 -4.07 96.07

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

F

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



2022/11/11

Barry 65 %

Operation Mode	TX CH High	Test Date
Channel Number	5700MHz	Test By
Temperature	25	Humidity

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5706.80	114.94	-3.32	111.62	F		Peak	VERTICAL
2	5725.00	68.94	-3.25	65.69	68.20	-2.51	Peak	VERTICAL
1	5696.88	97.08	-3.37	93.71	F		Peak	HORIZONTAL
2	5725.00	65.20	-3.25	61.95	68.20	-6.25	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Opera	ation Mode	TZ	X CH Low	/			Test Date	2022/11/11
Chan	nel Number	55	10 MHz				Test By	Barry
Temp	erature	25					Humidity	65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5460.00	55.21	-4.21	51.00	54.00	-3.00	Average	VERTICAL
2	5460.00	65.30	-4.21	61.09	68.20	-7.11	Peak	VERTICAL
3	5470.00	54.02	-4.17	49.85	68.20	-18.35	Peak	VERTICAL
4	5505.04	109.43	-4.06	105.37	F		Peak	VERTICAL
1	5460.00	52.22	-4.21	48.01	54.00	-5.99	Average	HORIZONTAL
2	5460.00	65.28	-4.21	61.07	68.20	-7.13	Peak	HORIZONTAL
3	5470.00	64.97	-4.17	60.80	68.20	-7.40	Peak	HORIZONTAL
4	5500.23	94.28	-4.06	90.22	F		Peak	HORIZONTAL

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## Band Edges test (Band UNII-2C, 802.11n HT40 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2022/11/11
Channel Number	5670MHz	Test By	Barry
Temperature	25	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5673.20	108.74	-3.54	105.20	F		Peak	VERTICAL
2	5725.00	67.63	-3.25	64.38	68.20	-3.82	Peak	VERTICAL
1	5677.20	93.82	-3.52	90.30	F		Peak	HORIZONTAL
2	5725.00	65.88	-3.25	62.63	68.20	-5.57	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation ModeTX CH LowChannel Number5530 MHzTemperature25							Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5460.00	54.24	-4.21	50.03	54.00	-3.97	Average	VERTICAL
2	5460.00	67.76	-4.21	63.55	68.20	-4.65	Peak	VERTICAL
3	5470.00	69.69	-4.17	65.52	68.20	-2.68	Peak	VERTICAL
4	5526.82	107.22	-4.02	103.20	F		Peak	VERTICAL
1	5460.00	55.25	-4.21	51.04	54.00	-2.96	Average	HORIZONTAL
2	5460.01	65.87	-4.21	61.66	68.20	-6.54	Peak	HORIZONTAL
3	5470.00	64.96	-4.17	60.79	68.20	-7.41	Peak	HORIZONTAL
4	5562.86	93.30	-3.96	89.34	F		Peak	HORIZONTAL

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#### Band Edges test (Band UNII-2C, 802.11ac VHT80 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 2kHz, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2022/11/11
Channel Number	5610MHz	Test By	2
Temperature	25	Humidity	65 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5592.68	106.91	-3.91	103.00	F		Peak	VERTICAL
2	5725.00	65.82	-3.25	62.57	68.20	-5.63	Peak	VERTICAL
1	5587.92	90.22	-3.92	86.30	F		Peak	HORIZONTAL
2	5725.00	64.59	-3.25	61.34	68.20	-6.86	Peak	HORIZONTAL

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 2kHz, Sweep time= 200 ms.



## **Dipole Ant.**

Band Edges test (Band UNII-1 / Band UNII-2A, 802.11a mode) -Radiated								
Opera	tion Mode	TŽ	K CH Low	V			Test Date	2022/11/11
Chanı	nel Number	51	80 MHz				Test By	Barry
Temp	erature	25					Humidity	65 %
				[	[		1	
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	58.12	-5.11	53.01	54.00	-0.99	Average	VERTICAL
2	5150.00	70.77	-5.11	65.66	68.20	-2.54	Peak	VERTICAL
3	5179.65	115.22	-4.94	110.28	F		Peak	VERTICAL
1	5000.94	50.12	-5.34	44.78	54.00	-9.22	Average	HORIZONTAL
2	5000.94	63.99	-5.34	58.65	74.00	-15.35	Peak	HORIZONTAL
3	5150.00	58.01	-5.11	52.90	54.00	-1.10	Average	HORIZONTAL
4	5150.00	63.76	-5.11	58.65	68.20	-9.55	Peak	HORIZONTAL
5	5178.96	103.09	-4.94	98.15	F		Peak	HORIZONTAL

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Remark:

- Field strength limits for frequency above 1000MHz are based on average limits. However, Peak 2 mode field strength shall not exceed the average limits specified plus 20dB.
- Measurement of data within this frequency range shown " " in the table above means the 3 reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 4 ms., the VBW setting was 3 MHz.
- Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep 5 time= 200 ms.



Operation Mode	TX CH High
Channel Number	5320MHz
Temperature	25

Test Date2022/11/11Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5313.22	115.24	-4.55	110.69	F		Peak	VERTICAL
2	5350.00	57.41	-4.50	52.91	54.00	-1.09	Average	VERTICAL
3	5350.00	68.57	-4.50	64.07	68.20	-4.13	Peak	VERTICAL
1	5327.36	102.26	-4.53	97.73	F		Peak	HORIZONTAL
2	5350.00	56.25	-4.50	51.75	54.00	-2.25	Average	HORIZONTAL
3	5350.00	63.65	-4.50	59.15	68.20	-9.05	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.



Chan	ation Mode nel Number perature		X CH Lov 80 MHz	V	,		Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4794.63	49.42	-5.77	43.65	54.00	-10.35	Average	VERTICAL
2	4794.63	63.19	-5.77	57.42	74.00	-16.58	Peak	VERTICAL
3	5000.25	48.51	-5.34	43.17	54.00	-10.83	Average	VERTICAL
4	5000.25	63.84	-5.34	58.50	74.00	-15.50	Peak	VERTICAL
5	5000.25	63.84	-5.34	58.50	74.00	-15.50	Peak	VERTICAL
6	5150.00	58.11	-5.11	53.00	54.00	-1.00	Average	VERTICAL
7	5150.00	70.50	-5.11	65.39	68.20	-2.81	Peak	VERTICAL
8	5185.17	114.73	-4.90	109.83	F		Peak	VERTICAL
1	4783.59	49.35	-5.77	43.58	54.00	-10.42	Average	HORIZONTAL
2	4783.59	65.65	-5.77	59.88	74.00	-14.12	Peak	HORIZONTAL
3	5000.25	51.30	-5.34	45.96	54.00	-8.04	Average	HORIZONTAL
4	5000.25	64.16	-5.34	58.82	74.00	-15.18	Peak	HORIZONTAL
5	5150.00	48.83	-5.11	43.72	54.00	-10.28	Average	HORIZONTAL
6	5150.00	62.84	-5.11	57.73	68.20	-10.47	Peak	HORIZONTAL
7	5182.41	102.62	-4.93	97.69	F		Peak	HORIZONTAL

## Band Edges test (Band UNII-1 / Band UNII-2A, 802.11n HT20 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High		2022/11/11
Channel Number	5320MHz		Barry
Temperature	25	Humidity	65 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5326.38	113.93	-4.53	109.40	F		Peak	VERTICAL
2	5350.00	57.24	-4.50	52.74	54.00	-1.26	Average	VERTICAL
3	5350.00	68.00	-4.50	63.50	68.20	-4.70	Peak	VERTICAL
1	5319.38	100.73	-4.54	96.19	F		Peak	HORIZONTAL
2	5350.00	56.81	-4.50	52.31	54.00	-1.69	Average	HORIZONTAL
3	5350.00	59.30	-4.50	54.80	68.20	-13.40	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



l Number ature		90 MHz					
ature		er 5190 MHz				Test By	Barry
	25					Humidity	65 %
Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
4783.29	47.58	-5.77	41.81	54.00	-12.19	Average	VERTICAL
4783.29	65.90	-5.77	60.13	74.00	-13.87	Peak	VERTICAL
5114.15	48.42	-5.30	43.12	54.00	-10.88	Average	VERTICAL
5114.15	66.34	-5.30	61.04	74.00	-12.96	Peak	VERTICAL
5150.00	57.93	-5.11	52.82	54.00	-1.18	Average	VERTICAL
5150.00	70.65	-5.11	65.54	68.20	-2.66	Peak	VERTICAL
5206.45	111.90	-4.80	107.10	F		Peak	VERTICAL
4780.45	52.78	-5.77	47.01	54.00	-6.99	Average	HORIZONTAL
4780.45	67.21	-5.77	61.44	74.00	-12.56	Peak	HORIZONTAL
5150.00	53.52	-5.11	48.41	54.00	-5.59	Average	HORIZONTAL
5150.00	60.55	-5.11	55.44	68.20	-12.76	Peak	HORIZONTAL
5187.28	99.23	-4.89	94.34	F		Peak	HORIZONTAL
	Freq MHz 4783.29 4783.29 5114.15 5114.15 5150.00 5206.45 4780.45 4780.45 5150.00 5150.00 5150.00	Freq MHz         Reading dBuV           4783.29         47.58           4783.29         65.90           5114.15         48.42           5150.00         57.93           5150.00         70.65           5206.45         111.90           4780.45         52.78           4780.45         67.21           5150.00         53.52           5150.00         60.55	Freq MHz         Reading dBuV         Factor dB           4783.29         47.58         -5.77           4783.29         65.90         -5.77           5114.15         48.42         -5.30           5114.15         66.34         -5.30           5150.00         57.93         -5.11           5150.00         70.65         -5.11           5206.45         111.90         -4.80           4780.45         52.78         -5.77           5150.00         53.52         -5.11           5150.00         53.52         -5.11	Freq MHz         Reading dBuV         Factor dB         Level dBuV/m           4783.29         47.58         -5.77         41.81           4783.29         65.90         -5.77         60.13           5114.15         48.42         -5.30         43.12           5114.15         66.34         -5.30         61.04           5150.00         57.93         -5.11         52.82           5150.00         70.65         -5.11         65.54           5206.45         111.90         -4.80         107.10           4780.45         52.78         -5.77         41.44           5150.00         53.52         -5.11         48.41           5150.00         53.52         -5.11         48.41	Freq MHzReading dBuVFactor dBLevel dBuV/mLimit dBuV/m4783.2947.58-5.7741.8154.004783.2965.90-5.7760.1374.005114.1548.42-5.3043.1254.005114.1566.34-5.3061.0474.005150.0057.93-5.1152.8254.005150.0070.65-5.1165.5468.205206.45111.90-4.80107.10F4780.4552.78-5.7747.0154.005150.0053.52-5.1148.4154.005150.0053.52-5.1148.4154.005150.0060.55-5.1161.4474.00	Freq MHzReading dBuVFactor dBLevel dBuV/mLimit dBuV/mMargin dB4783.29 $47.58$ $-5.77$ $41.81$ $54.00$ $-12.19$ 4783.29 $65.90$ $-5.77$ $60.13$ $74.00$ $-13.87$ $5114.15$ $48.42$ $-5.30$ $43.12$ $54.00$ $-10.88$ $5114.15$ $66.34$ $-5.30$ $61.04$ $74.00$ $-12.96$ $5150.00$ $57.93$ $-5.11$ $52.82$ $54.00$ $-1.18$ $5150.00$ $70.65$ $-5.11$ $65.54$ $68.20$ $-2.66$ $5206.45$ $111.90$ $-4.80$ $107.10$ F $$ $4780.45$ $52.78$ $-5.77$ $47.01$ $54.00$ $-6.99$ $4780.45$ $67.21$ $-5.77$ $61.44$ $74.00$ $-12.56$ $5150.00$ $53.52$ $-5.11$ $48.41$ $54.00$ $-5.59$ $5150.00$ $60.55$ $-5.11$ $55.44$ $68.20$ $-12.76$	Freq MHzReading dBuVFactor dBLevel dBuV/mLimit dBuV/mMargin dBRemark4783.2947.58-5.7741.8154.00-12.19Average4783.2965.90-5.7760.1374.00-13.87Peak5114.1548.42-5.3043.1254.00-10.88Average5114.1566.34-5.3061.0474.00-12.96Peak5150.0057.93-5.1152.8254.00-1.18Average5150.0070.65-5.1165.5468.20-2.66Peak5206.45111.90-4.80107.10FPeak4780.4552.78-5.7747.0154.00-6.99Average4780.4567.21-5.7761.4474.00-12.56Peak5150.0053.52-5.1148.4154.00-5.59Average5150.0060.55-5.1155.4468.20-12.76Peak

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#### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11n HT40 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



1	TX CH High		2022/11/11
Channel Number		~	Barry
Temperature	25	Humidity	65 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5312.40	111.29	-4.55	106.74	F		Peak	VERTICAL
2	5350.00	54.58	-4.50	50.08	54.00	-3.92	Average	VERTICAL
3	5350.00	68.89	-4.50	64.39	68.20	-3.81	Peak	VERTICAL
1	5324.72	97.48	-4.53	92.95	F		Peak	HORIZONTAL
2	5350.00	54.57	-4.50	50.07	54.00	-3.93	Average	HORIZONTAL
3	5350.00	62.36	-4.50	57.86	68.20	-10.34	Peak	HORIZONTAL

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Chan	ation Mode nel Number perature		X CH Low 210 MHz	V			Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	56.22	-5.11	51.11	54.00	-2.89	Average	VERTICAL
2	5150.00	70.37	-5.11	65.26	68.20	-2.94	Peak	VERTICAL
3	5221.50	110.20	-4.75	105.45	F		Peak	VERTICAL
1	5150.00	56.24	-5.11	51.13	54.00	-2.87	Average	HORIZONTAL
2	5150.00	66.61	-5.11	61.50	68.20	-6.70	Peak	HORIZONTAL
3	5222.25	94.40	-4.75	89.65	F		Peak	HORIZONTAL

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#### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11ac VHT80 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High
Channel Number	5290MHz
Temperature	25

Test Date2022/11/11Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5317.20	108.54	-4.54	104.00	F		Peak	VERTICAL
2	5350.00	54.24	-4.50	49.74	54.00	-4.26	Average	VERTICAL
3	5350.00	68.33	-4.50	63.83	68.20	-4.37	Peak	VERTICAL
1	5285.20	93.17	-4.59	88.58	F		Peak	HORIZONTAL
2	5350.00	56.24	-4.50	51.74	54.00	-2.26	Average	HORIZONTAL
3	5350.00	66.61	-4.50	62.11	68.20	-6.09	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.

Peak

Average

Peak

Peak

Peak

---

-7.03

-20.52

-9.65

---

VERTICAL

HORIZONTAL

HORIZONTAL

HORIZONTAL

HORIZONTAL



Chan	ation Mode nel Number perature	1 Number 5500 MHz Test By		2022/11/11 Barry 65 %				
No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5460.00	46.22	-4.21	42.01	54.00	-11.99	Average	VERTICAL
2	5460.17	70.08	-4.21	65.87	68.20	-2.33	Peak	VERTICAL
3	5460.17	70.08	-4.21	65.87	68.20	-2.33	Peak	VERTICAL
4	5470.00	67.83	-4.17	63.66	68.20	-4.54	Peak	VERTICAL

F

54.00

74.00

68.20

F

111.25

46.97

53.48

58.55

99.19

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## Band Edges test (Band UNII-2C, 802.11a mode) -Radiated

-4.08

-4.23

-4.23

-4.17

-4.07

Remark:

5

1

2

3

4

5493.94

5450.00

5450.00

5470.00

5495.37

115.33

51.20

57.71

62.72

103.26

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2022/11/11
Channel Number	5700MHz	Test By	Barry
Temperature	25	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5697.04	114.95	-3.37	111.58	F		Peak	VERTICAL
2	5725.00	69.63	-3.25	66.38	68.20	-1.82	Peak	VERTICAL
1	5699.12	101.44	-3.36	98.08	F		Peak	HORIZONTAL
2	5725.00	57.23	-3.25	53.98	68.20	-14.22	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- Measurement of data within this frequency range shown " " in the table above means the 3 reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep 5 time= 200 ms.



Chan	ation Mode nel Number perature		X CH Low 00 MHz	<i>I</i>			Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5460.00	53.24	-4.21	49.03	54.00	-4.97	Average	VERTICAL
2	5460.00	63.43	-4.21	59.22	68.20	-8.98	Peak	VERTICAL
3	5470.00	69.32	-4.17	65.15	68.20	-3.05	Peak	VERTICAL
4	5498.56	114.18	-4.06	110.12	F		Peak	VERTICAL
1	5460.00	52.36	-4.21	48.15	54.00	-5.85	Average	HORIZONTAL
2	5460.00	58.04	-4.21	53.83	68.20	-14.37	Peak	HORIZONTAL
3	5470.00	62.25	-4.17	58.08	68.20	-10.12	Peak	HORIZONTAL
4	5493.61	102.64	-4.08	98.56	F		Peak	HORIZONTAL

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## Band Edges test (Band UNII-2C, 802.11n HT20 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2022/11/11
Channel Number	5700MHz	Test By	Barry
Temperature	25	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
						uD		
1	5698.96	113.93	-3.36	110.57	F		Peak	VERTICAL
2	5725.00	68.00	-3.25	64.75	68.20	-3.45	Peak	VERTICAL
1	5706.48	100.00	-3.32	96.68	F		Peak	HORIZONTAL
2	5725.00	56.99	-3.25	53.74	68.20	-14.46	Peak	HORIZONTAL

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Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



1	ation Mode		TX CH Low					2022/11/11
Chan	nel Number	• 55	10 MHz				Test By	Barry
Temp	Temperature						Humidity	65 %
_							-	
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5460.00	54.34	-4.21	50.13	54.00	-3.87	Average	VERTICAL
2	5460.00	62.22	-4.21	58.01	68.20	-10.19	Peak	VERTICAL
3	5470.00	65.06	-4.17	60.89	68.20	-7.31	Peak	VERTICAL
4	5493.86	108.32	-4.08	104.24	F		Peak	VERTICAL
1	5460.00	55.73	-4.21	51.52	68.20	-16.68	Peak	HORIZONTAL
2	5470.00	56.95	-4.17	52.78	68.20	-15.42	Peak	HORIZONTAL
3	5500.36	95.17	-4.06	91.11	F		Peak	HORIZONTAL

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## Band Edges test (Band UNII-2C, 802.11n HT40 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2022/11/11
Channel Number	5670MHz	Test By	Barry
Temperature	25	Humidity	65 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5681.00	110.10	-3.48	106.62	F		Peak	VERTICAL
2	5725.00	62.66	-3.25	59.41	68.20	-8.79	Peak	VERTICAL
1	5675.20	96.65	-3.53	93.12	F		Peak	HORIZONTAL
2	5811.20	65.77	-3.00	62.77	68.20	-5.43	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Chan	Operation ModeTX CH LChannel Number5530 MHTemperature25						Test Date Test By Humidity	2022/11/11 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5460.00	55.24	-4.21	51.03	54.00	-2.97	Average	VERTICAL
2	5460.00	65.31	-4.21	61.10	68.20	-7.10	Peak	VERTICAL
3	5470.00	66.34	-4.17	62.17	68.20	-6.03	Peak	VERTICAL
4	5540.25	106.97	-3.99	102.98	F		Peak	VERTICAL
1	5460.00	53.59	-4.21	49.38	54.00	-4.62	Average	HORIZONTAL
2	5460.01	66.52	-4.21	62.31	68.20	-5.89	Peak	HORIZONTAL
3	5470.00	65.43	-4.17	61.26	68.20	-6.94	Peak	HORIZONTAL
4	5519.51	92.61	-4.03	88.58	F		Peak	HORIZONTAL

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#### Band Edges test (Band UNII-2C, 802.11ac VHT80 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 2kHz, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2022/11/11
Channel Number	5610MHz	5	Barry
Temperature	25	Humidity	65 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5599.68	107.02	-3.90	103.12	F		Peak	VERTICAL
2	5725.00	65.85	-3.25	62.60	68.20	-5.60	Peak	VERTICAL
1	5606.68	91.97	-3.88	88.09	F		Peak	HORIZONTAL
2	5725.00	65.91	-3.25	62.66	68.20	-5.54	Peak	HORIZONTAL

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 2kHz, Sweep time= 200 ms.

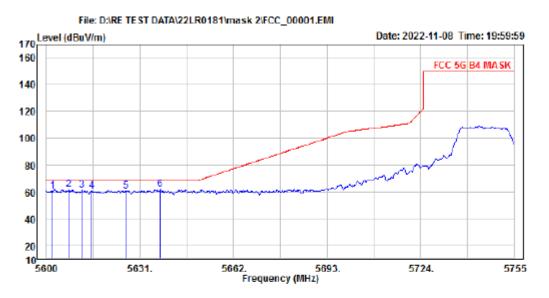




# PIFA Ant.

#### Band Edges test (Band UNII-3, 802.11a mode) - Radiated

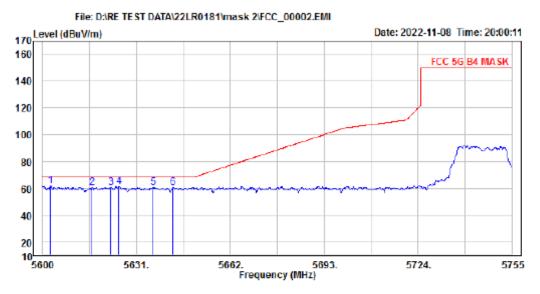
Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5745 MHz	Test By	Barry
Temperature	25	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : :22LR0181

Mode Note	: 5G Mask B4 a Mode Low Ch :										
		Read			Limit	0ver					
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase				
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB					
1	5602.015	64.95	-4.61	60.34	68.20	-7.86	Vertical				
2	5607.440	66.03	-4.62	61.41	68.20	-6.79	Vertical				
3	5611.780	65.59	-4.63	60.96	68.20	-7.24	Vertical				
4	5615.035	65.02	-4.63	60.39	68.20	-7.81	Vertical				
5	5626.350	65.40	-4.66	60.74	68.20	-7.46	Vertical				
6 PP	5637.665	66.20	-4.68	61.52	68.20	-6.68	Vertical				





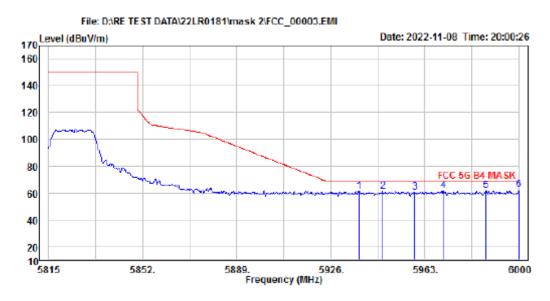
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : :22LR0181

201		122CHOIDI						
Mode	:	5G	Mask	Β4	а	Mode	Low	Ch
Note	\$							

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
-	MHz	dBuV	d8/m	dBu <b>V/m</b>	dBuV/m	dB	
1 PP 2 3 4 5 6	5602.635 5616.430 5622.630 5625.265 5636.425 5643.090	65.25 65.27 65.41 66.04 65.39 65.02	-4.64 -4.65 -4.65 -4.68	60.63 60.76 61.39 60.71	68.20 68.20 68.20	-7.57 -7.44 -6.81 -7.49	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5825MHz	Test By	Barry
Temperature	25	Humidity	65 %



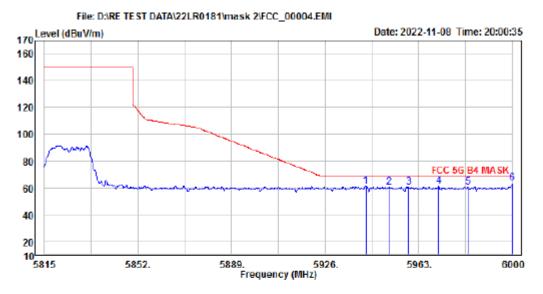
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : :22LR0181 Mode : 5G Mask B4 a Mode High Ch

Note

1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1	5937.100	65.14	-3.87	61.27	68.20	-6.93	Vertical
2	5946.350	64.89	-3.87	61.02	68.20	-7.18	Vertical
3	5958.930	64.60	-3.84	60.76	68.20	-7.44	Vertical
4	5970.215	65.22	-3.80	61.42	68.20	-6.78	Vertical
5	5987.050	65.24	-3.74	61.50	68.20	-6.70	Vertical
6 PP	6000.000	66.16	-3.69	62.47	68.20	-5.73	Vertical





Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

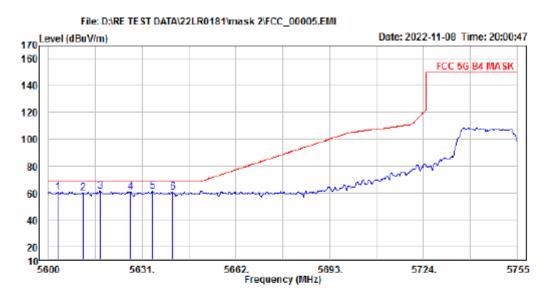
EUT	:	221	LR <b>01</b> 81	1				
Mode	:	5G	Mask	Β4	а	Mode	High	Ch
Note	:							

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1 2 3 4 5 6 PP	5942.095 5951.160 5958.930 5970.955 5982.425 6000.000	64.99 64.15 64.41 64.67 64.38 67.38	-3.84 -3.80 -3.76	61.11 60.27 60.57 60.87 60.62 63.69		-7.93 -7.63 -7.33 -7.58	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



#### Band Edges test (Band UNII-3, 802.11n HT20 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5745 MHz	Test By	Barry
Temperature	25	Humidity	65 %

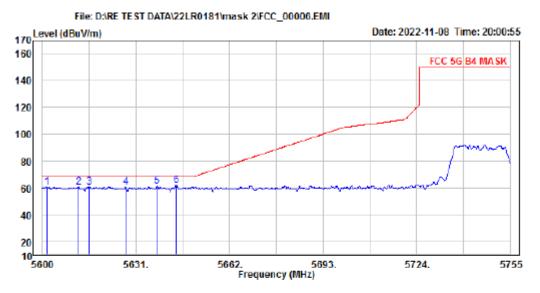


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUI	а.	22LR0181
Mode	:	5G Mask B4 n20 Mode Low Ch
Note	:	

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1	5603.100	65.06	-4.61	60.45	68.20	-7.75	Vertical
2	5611.470	64.36	-4.63	59.73	68.20	-8.47	Vertical
3	5617.050	65.60	-4.64	60.96	68.20	-7.24	Vertical
4	5627.125	65.37	-4.66	60.71	68.20	-7.49	Vertical
5 PP	5634.410	65.70	-4.69	61.01	68.20	-7.19	Vertical
6	5641.075	65.15	-4.69	60.46	68.20	-7.74	Vertical





Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

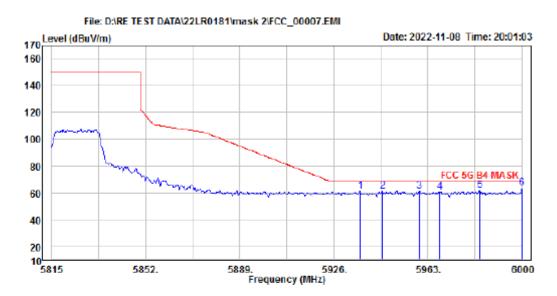
EUT : 22LRØ181

Mode	:	5G	Mask	Β4	n20	Mode	Low	Ch
Note	5							

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
-	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1 2 3 4 5	5601.395 5611.935 5615.500 5627.590 5637.975 5644.330	65.36 65.30 65.38 65.35 66.00 66.56	-4.61 -4.63 -4.63 -4.66 -4.68 -4.71	60.75 60.69 61.32		-7.53 -7.45 -7.51 -6.88	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5825 MHz	Test By	Barry
Temperature	25	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

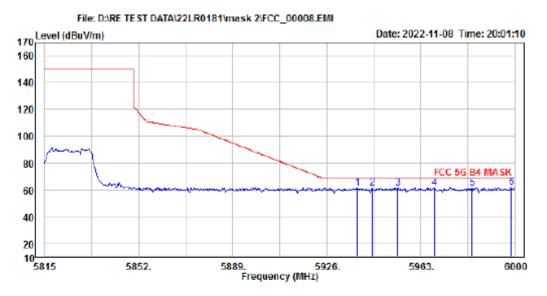
EUT : 22LR0181 Mode : 5G Mask B4 n20 Mode High Ch

2

Note

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1 2 3 4 5	5936.360 5945.055 5959.670 5967.625 5983.350	64.81 64.77 65.11 64.52 65.20 67.45	-3.87 -3.87 -3.84 -3.81 -3.75 -3.69	60.94 60.90 61.27 60.71 61.45 63.76	68.20 68.20 68.20	-7.30 -6.93 -7.49 -6.75	Vertical Vertical Vertical Vertical Vertical Vertical





Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : 22LR0181

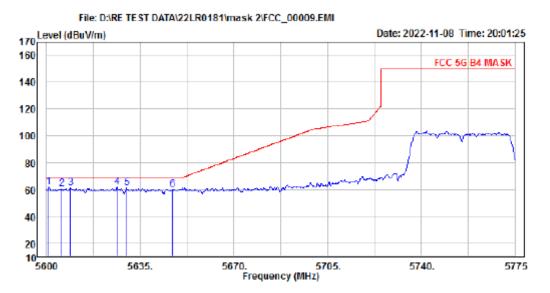
EUI		2210101	
Mode	:	5G Mask B4 n20 Mode	High Ch
Note	;		

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1 2 3 4 5 6 PP	5938.025 5943.760 5953.935 5968.180 5983.165 5998.520	65.14 64.84 65.00 64.96 64.92 65.26	-3.88 -3.88 -3.87 -3.80 -3.75 -3.69	61.13 61.16 61.17	68.20 68.20 68.20 68.20 68.20 68.20 68.20	-7.24 -7.07 -7.04 -7.03	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



#### Band Edges test (Band UNII-3, 802.11n HT40 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5755 MHz	Test By	Barry
Temperature	25	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

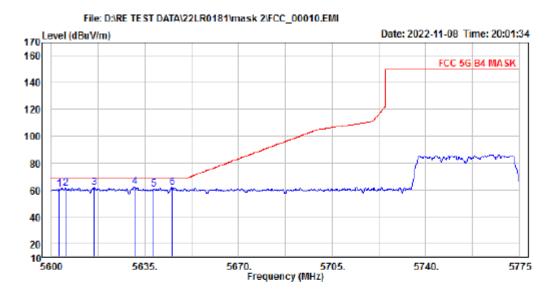
EUT : 22LR0181

```
Mode : 5G Mask B4 n40 Mode Low Ch
Note :
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
-	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1 2 3 4 PP 5 6	5600.875 5605.600 5609.100 5626.425 5629.925 5647.075	66.32 64.88 65.55 66.39 65.89 64.59	-4.60 -4.61 -4.62 -4.66 -4.67 -4.71	60.93 61.73	68.20 68.20 68.20	-7.93 -7.27 -6.47 -6.98	Vertical Vertical Vertical Vertical Vertical Vertical







Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT : 22LR0181

1

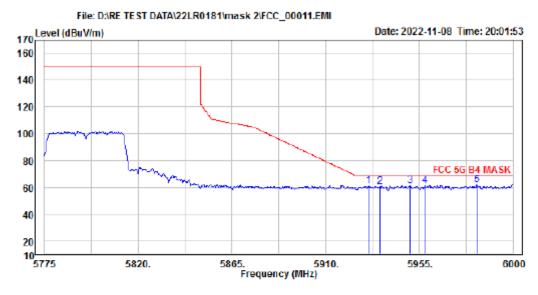
: 5G Mask B4 n40 Mode Low Ch Mode

Note

Free	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
MH	z dBuV	d8/m	dBu <b>V/m</b>	dBuV/m	dB	
1 5602.979 2 5605.250 3 5616.100 4 PP 5631.150 5 5638.329 6 5645.150	65.58 66.22 67.07 65.30	-4.63 -4.67 -4.68	60.37 60.97 61.59 62.40 60.62 61.89	68.20 68.20 68.20 68.20 68.20 68.20 68.20	-7.23 -6.61 -5.80 -7.58	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5795MHz	Test By	Barry
Temperature	25	Humidity	65 %

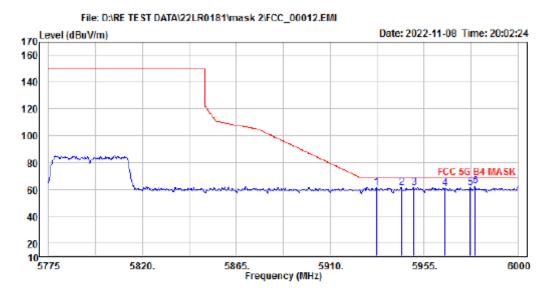


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : 22LR0181 Mode : 5G Mask B4 n40 Mode High Ch Note :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1	5930.475	64.87	-3.87	61.00	68.20	-7.20	Vertical
2	5936.100	64.62	-3.87	60.75	68.20	-7.45	Vertical
3	5950.500	64.81	-3.88	60.93	68.20	-7.27	Vertical
4	5957.700	65.18	-3.84	61.34	68.20	-6.86	Vertical
5	5982.450	65.49	-3.76	61.73	68.20	-6.47	Vertical
6 PP	6000.000	66.71	-3.69	63.02	68.20	-5.18	Vertical
7	6000.000	66.71	-3.69	63.02	68.20	-5.18	Vertical







Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

- EUT : 22LR0181
- Mode : 5G Mask B4 n40 Mode High Ch Note :

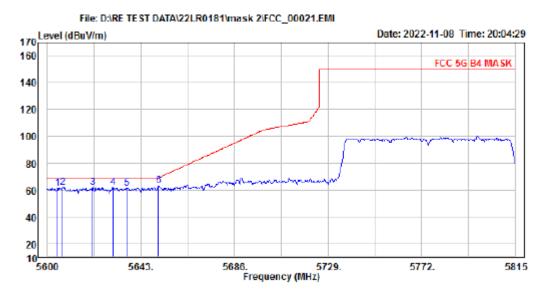
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1	5932.050	65.03	-3.87	61.16	68.20	-7.04	Horizontal
2	5944.200	64.85	-3.88	60.97	68.20	-7.23	Horizontal
3	5950.050	65.04	-3.88	61.16	68.20	-7.04	Horizontal
4	5965.125	64.29	-3.82	60.47	68.20	-7.73	Horizontal
5	5977.275	64.71	-3.78	60.93	68.20	-7.27	Horizontal
6	5979.300	66.02	-3.77	62.25	68.20	-5.95	Horizontal
7 PP	6000.000	66.79	-3.69	63.10	68.20	-5.10	Horizontal



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#### Band Edges test (Band UNII-3, 802.11ac VHT80 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5775 MHz	Test By	Barry
Temperature	25	Humidity	65 %



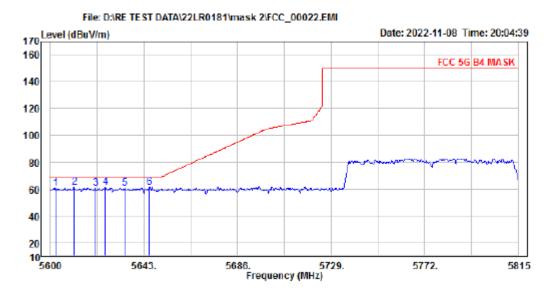
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	\$	22LR0181				
Mode	:	5G Mask B4	ac80	Mode	Low	Ch
Note	\$					

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1 2 3	5604.730 5607.095 5620.855	66.52	-4.62 -4.62 -4.65	61.90	68.20 68.20 68.20	-6.30	Vertical Vertical Vertical
4 5 6 1	5630.100 5636.335	66.21 65.95	-4.67	61.54 61.27	68.20 68.20	-6.66 -6.93	Vertical Vertical Vertical







Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

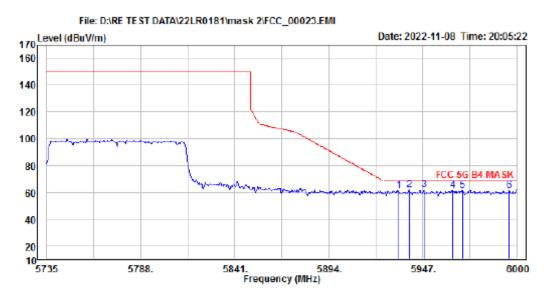
EUT : 22LR0181

Mode	:	5G Mask B4 ac80 Mode Low Ch
Note	\$	

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1	5602.365	65.11	-4.61	60.50	68.20	-7.70	Horizontal
2	5610.965	65.59	-4.62	60.97	68.20	-7.23	Horizontal
3	5620.640	65.06	-4.65	60.41	68.20	-7.79	Horizontal
4	5625.370	65.56	-4.65	60.91	68.20	-7.29	Horizontal
5	5634.400	65.07	-4.69	60.38	68.20	-7.82	Horizontal
6 PP	5645.580	65.96	-4.70	61.26	68.20	-6.94	Horizontal



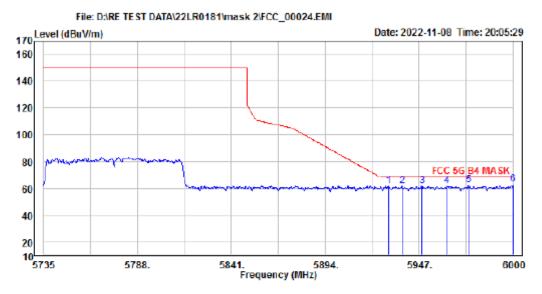
Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5775MHz	Test By	Barry
Temperature	25	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : 22LR0181 Mode : 5G Mask B4 ac80 Mode Low Ch Note 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1	5933.220	65.09	-3.88	61.21	68.20	-6.99	Vertical
2 PP	5939.315	65.33	-3.88	61.45	68.20	-6.75	Vertical
3	5947.530	65.33	-3.88	61.45	68.20	-6.75	Vertical
4	5963.695	64.83	-3.83	61.00	68.20	-7.20	Vertical
5	5969.260	65.15	-3.80	61.35	68.20	-6.85	Vertical
6	5995.760	64.59	-3.70	60.89	68.20	-7.31	Vertical





Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	:	22LR0181
Mode	:	5G Mask B
Note	:	

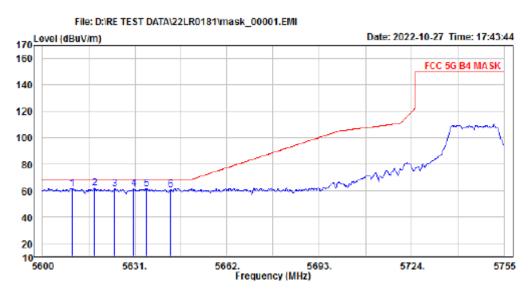
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBu <b>V/m</b>	dBuV/m	dB	
1 2 3 4 5 6 PP	5929.775 5937.460 5948.590 5962.635 5974.825 6800.800	65.81 65.74 65.68 65.30 66.05	-3.87 -3.87 -3.88 -3.83 -3.79 -3.69	61.94 61.87 61.80 61.47 62.26 62.97	68.20 68.20 68.20 68.20 68.20 68.20	-6.33 -6.40 -6.73 -5.94	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal

B4 ac80 Mode Low Ch



## **Dipole Ant.** Band Edges test (Band UNII-3, 802.11a mode) - Radiated

Operation Mode	TX CH Low	Test Date	2022/10/27
Channel Number	5745 MHz	Test By	Barry
Temperature	25	Humidity	65 %



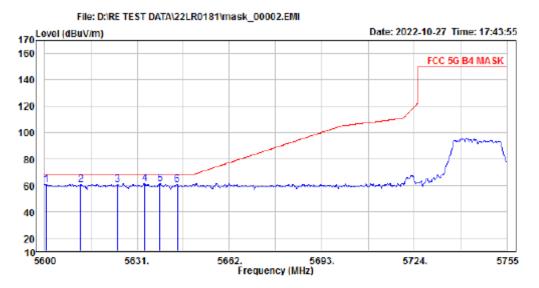
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

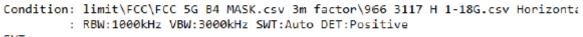
EUT Mode : 5G Mask B4 a Mode Low Ch Note \$

	Freq MHz	Read Level dBuV		Level		Over Limit dB	Pol/Phase
1 2 PP 3 4 5 6	5609.765 5617.360 5624.180 5630.690 5635.030 5643.090	66.31	-4.64 -4.66 -4.67 -4.67	60.89 60.81	68.20 68.20 68.20 68.20	-6.53 -7.31 -7.39 -6.85	Vertical Vertical Vertical Vertical Vertical Vertical







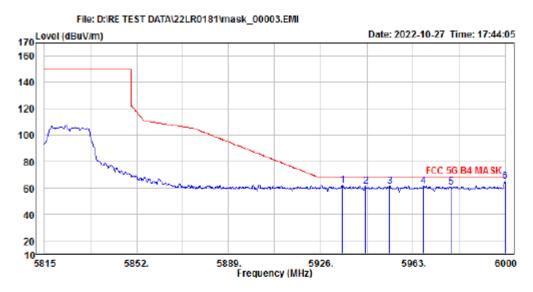


EUT	2							
Mode	ŝ,	5G	Mask	<b>B4</b>	а	Mode	Low	Ch
Note	:							

		Read evel Fa	ctor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m d	BuV/m	dBuV/m	dB	
1 5600	.310 6	5.27 -	4.60	60.67	68.20	-7.53	Horizontal
2 5612	.090 6	5.09 -	4.63	60.46	68.20	-7.74	Horizontal
3 5624	4.490 6	5.26 -	4.66	60.60	68.20	-7.60	Horizontal
4 5633	.480 6	5.77 -	4.68	61.09	68.20	-7.11	Horizontal
				61.23 60.21	68.20 68.20		Horizontal Horizontal



Operation Mode	TX CH High	Test Date	2022/10/27
Channel Number	5825MHz	Test By	Barry
Temperature	25	Humidity	65 %

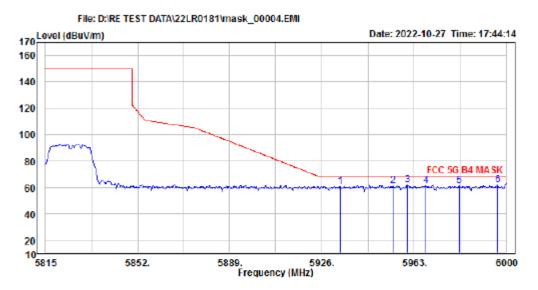


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	-								
Mode	ŝ,	5G	Mask	B4	а	Mode	High	Ch	
Note	\$								

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 5	5934.880 5943.760 5953.565 5967.070 5978.170 6008.000	65.51 65.10 65.28 65.14 64.51 68.17	-3.88 -3.88 -3.87 -3.82 -3.77 -3.69	61.63 61.22 61.41 61.32 60.74 64.48	68.20 68.20 68.20 68.20 68.20 68.20	-6.98 -6.79 -6.88 -7.46	Vertical Vertical Vertical Vertical Vertical Vertical





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Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont: : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

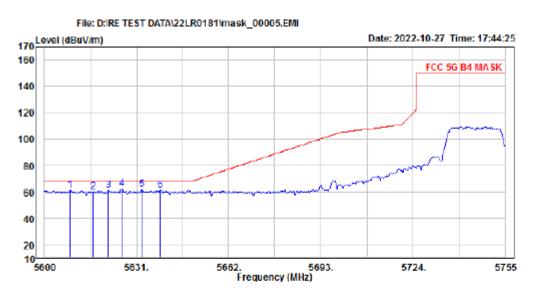
Note	:			0			
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5933.585	64.35	-3.88	60.47	68.20		Horizontal
2 3 PP	5954.490 5960.225	64.68 65.76	-3.87 -3.84	60.81 61.92	68.20 68.20		Horizontal Horizontal
4 5	5967.625 5981.130	64.86 64.69	-3.81 -3.76	61.05 60.93	68.20 68.20		Horizontal Horizontal
6	5996.485	65.21	-3.70	61.51	68.20	-6.69	Horizontal

EUT : Mode : 5G Mask B4 a Mode High Ch Note :



#### Band Edges test (Band UNII-3, 802.11n HT20 mode) –Radiated

Operation Mode	TX CH Low	Test Date	2022/10/27
Channel Number	5745 MHz	Test By	Barry
Temperature	25	Humidity	65 %



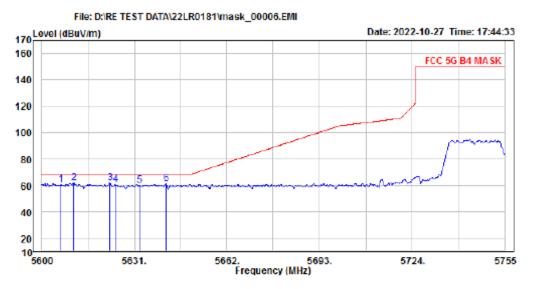
#### Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT Mode Note

: 5G Mask B4 n20 Mode Low Ch

	Read Freq Level MHz dBuV	Factor	Level		Over Limit dB	Pol/Phase
1 5608. 2 5616. 3 5621. 4 PP 5626. 5 5632. 6 5639.	.430 64.72 .545 65.49 .040 66.79 .860 66.67	-4.64 -4.66 -4.65 -4.68	60.98 60.08 60.83 62.14 61.99 61.21	68.20 68.20 68.20 68.20 68.20 68.20 68.20	-8.12 -7.37 -6.06 -6.21	Vertical Vertical Vertical Vertical Vertical Vertical





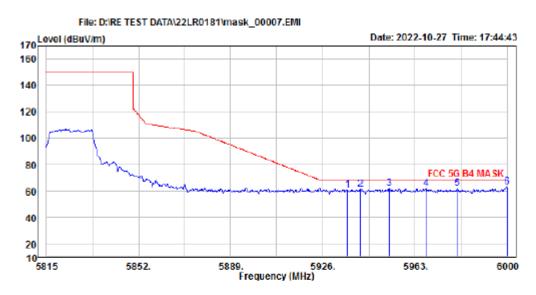
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2							
Mode	÷	5 <b>G</b>	Mask	B4	⊓ <b>20</b>	Mode	Low	Ch
Note	\$							

Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 5606.355 2 PP 5610.695 3 5622.785 4 5624.645 5 5632.860	66.63	-4.62 -4.62 -4.65 -4.66 -4.68	62.01	68.20 68.20 68.20 68.20 68.20	-6.19 -6.68 -7.81	Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High	Test Date	2022/10/27
Channel Number	5825 MHz	Test By	Barry
Temperature	25	Humidity	65 %

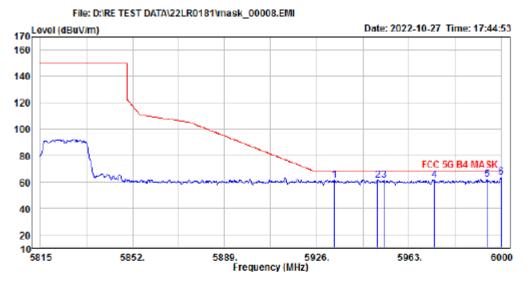


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2								
Mode	2	5G	Mask	<b>B4</b>	⊓ <b>20</b>	Mode	High	Ch	
Note	:								

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 5 6 PP	5935.990 5941.355 5952.455 5967.440 5980.020 6000.000	65.07	-3.87 -3.88 -3.88 -3.82 -3.77 -3.69	61.43 61.84 61.45	68.20 68.20 68.20	-7.01 -6.77 -6.36 -6.75	Vertical Vertical Vertical Vertical Vertical Vertical





Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

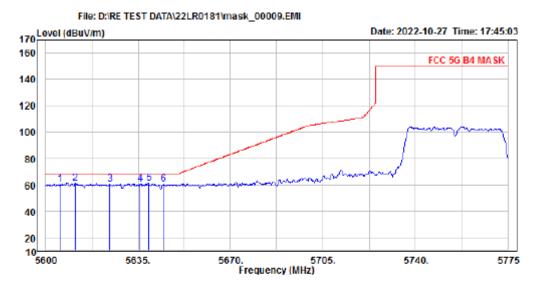
EUT Mode Note	: : 56 Mask B4 n20 Mode Hig :	gh Ch
	Read Freq Level Factor Level	Limit Line

			Read			Limit	0ver	
		Freq	Level	Factor	Level	Line	Limit	Pol/Phase
	-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		5933.400	65.12	-3.88	61.24	68.20	-6.96	Horizontal
2		5950.420	65.14	-3.88	61.26	68.20	-6.94	Horizontal
З		5953.010	64.99	-3.87	61.12	68.20	-7.08	Horizontal
4		5972.990	64.81	-3.79	61.02	68.20	-7.18	Horizontal
5		5994.265	65.51	-3.71	61.80	68.20	-6.40	Horizontal
6	PP	6000.000	67.48	-3.69	63.79	68.20	-4.41	Horizontal



## Band Edges test (Band UNII-3, 802.11n HT40 mode) – Radiated

Operation Mode	TX CH Low	Test Date	2022/10/27
Channel Number	5755 MHz	Test By	Barry
Temperature	25	Humidity	65 %



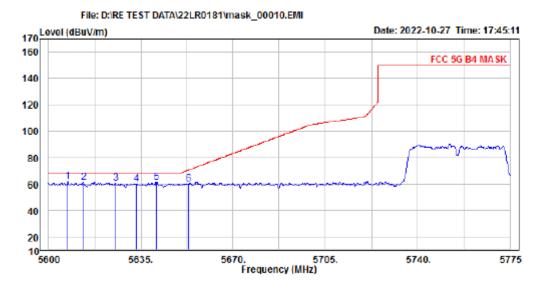
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	а.								
Mode	2	5G	Mask	B4	⊓ <b>40</b>	Mode	Low	Ch	
Note	:								

-	Freq	Read Level		Level		Over Limit dB	Pol/Phase
1 2 3 4 5 PP	5605.425 5611.200 5624.325 5635.875 5639.025		-4.61 -4.62 -4.66 -4.67 -4.69	60.30	68.20 68.20 68.20 68.20	-7.90 -7.09 -7.97 -7.62	Vertical Vertical Vertical Vertical Vertical
5 PP	5639.025	66.03	-4.69 -4.71	61.34 60.20	68.20		Vertical Vertical







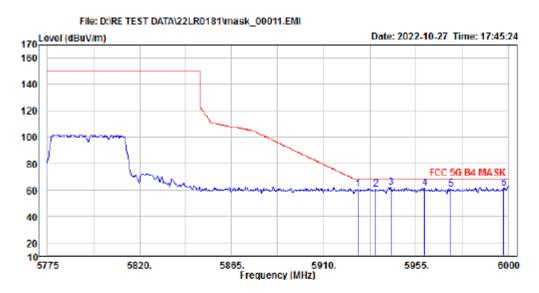
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont@ : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2							
Mode	2	5G	Mask	<b>B4</b>	⊓ <b>40</b>	Mode	Low	Ch
Note	:							

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 PP 2 3 4 5 6	5607.175 5613.125 5625.375 5633.250 5640.950 5653.025			61.32 60.50 60.17 61.37	68.20 68.20 68.20 68.20	-6.88 -7.70 -8.03 -6.83	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



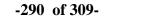
Operation Mode	TX CH High	Test Date	2022/10/27
Channel Number	5795MHz	Test By	Barry
Temperature	25	Humidity	65 %



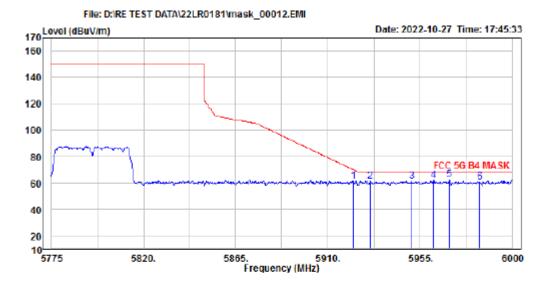
Condition: limit/FCC/FCC 5G B4 MASK.csv 3m factor/966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT : 5G Mask B4 n40 Mode High Ch Mode Note 1

	Freq MHz	Read Level dBuV		Level		Over Limit dB	Pol/Phase
1 2 3 PP 4	5926.875 5935.425 5942.625 5959.050	64.40	-3.87	60.53		-7.67 -6.63	Vertical Vertical Vertical Vertical
5	5971.875 5997.975		-3.80 -3.69	60.52 61.12	68.20 68.20		Vertical Vertical







Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

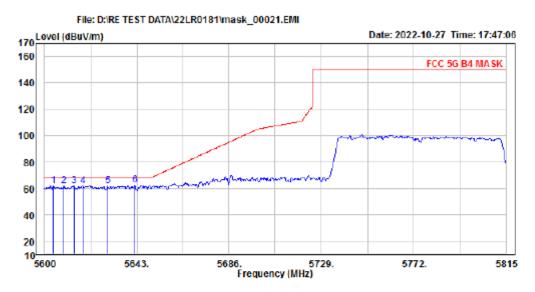
EUT	а,							
Mode	2	5G	Mask	B4	⊓ <b>40</b>	Mode	High	Ch
Note	;							

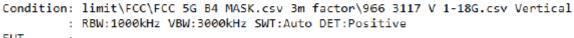
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 5 PP 6	5922.600 5930.700 5950.725 5961.525 5969.400 5984.025	65.22 64.67 64.78 65.77 65.89 64.49	-3.88 -3.87 -3.88 -3.84 -3.80 -3.75	61.34 60.80 60.90 61.93 62.09 60.74	69.97 68.20 68.20 68.20 68.20 68.20 68.20	-7.40 -7.30 -6.27 -6.11	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



#### Band Edges test (Band UNII-3, 802.11ac VHT80 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2022/10/27
Channel Number	5775 MHz	Test By	Barry
Temperature	25	Humidity	65 %

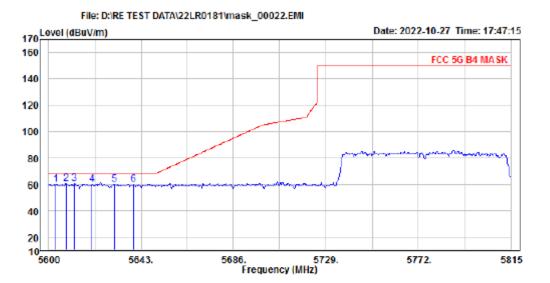




LUI								
Mode	ŝ,	5 <b>G</b>	Mask	B4	ac <b>80</b>	Mode	Low	Ch
Note	;							

		Read			Limit	0ver	
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5604.085	66.23	-4.62	61.61	68.20	-6.59	Vertical
2	5608.815	66.50	-4.63	61.87	68.20	-6.33	Vertical
з	5613.545	66.21	-4.63	61.58	68.20	-6.62	Vertical
4	5617.630	66.36	-4.64	61.72	68.20	-6.48	Vertical
5	5629.240	66.30	-4.67	61.63	68.20	-6.57	Vertical
6	PP 5642.140	67.08	-4.70	62.38	68.20	-5.82	Vertical





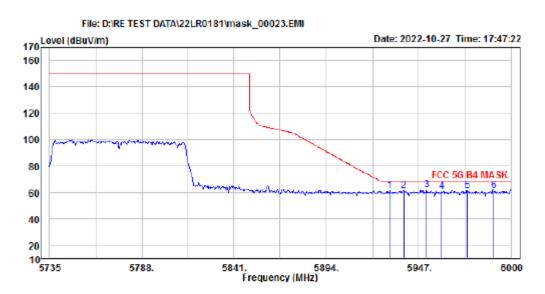
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

Mode Note	: : 5G :	Mask B4	ac <b>80</b>	Mode l	Low Ch		
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	

1	5603.225	64.58	-4.61	59.97	68.20	-8.23 Horizontal
2 PF	5607.955	65.26	-4.62	60.64	68.20	-7.56 Horizontal
3	5611.825	65.04	-4.63	60.41	68.20	-7.79 Horizontal
4	5619.995	64.63	-4.65	59.98	68.20	-8.22 Horizontal
5	5630.315	64.74	-4.67	60.07	68.20	-8.13 Horizontal
6	5639.345	64.35	-4.69	59.66	68.20	-8.54 Horizontal



Operation Mode	TX CH High	Test Date	2022/10/27
Channel Number	5775MHz	Test By	Barry
Temperature	25	Humidity	65 %

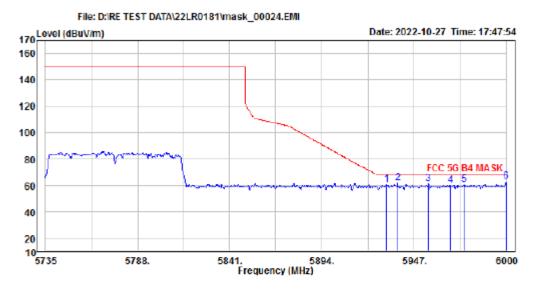


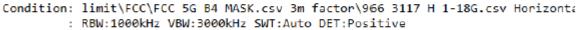
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2							
Mode	ŝ,	5G	Mask	<b>B4</b>	ac <b>80</b>	Mode	High	Ch
Note	5							

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 PP 4 5 6	5930.305 5938.255 5951.240 5960.250 5974.825 5990.195	65.49 64.07 65.06	-3.87 -3.88 -3.88 -3.84 -3.79 -3.73	61.61		-7.35 -6.59 -7.97 -6.93	Vertical Vertical Vertical Vertical Vertical Vertical







Сh

EUT	2						
Mode	ŝ,	5G	Mask	B4	ac <mark>80</mark>	Mode	High
Note	÷						

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 5 6 PP	5931.100 5937.460 5955.215 5967.935 5975.620 6008.000	64.21 65.88 65.13 63.93 64.44 66.35	-3.87 -3.87 -3.85 -3.81 -3.78 -3.69	60.34 62.01 61.28 60.12 60.66 62.66		-6.19 -6.92 -8.08 -7.54	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



## 10. Transmission in the Absence of Data

## **10.1. Standard Applicable**

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

#### 10.2. Result:

Pass, the device is compliance with 802.11 a/ b/g/n ac standard, the short control signal is appear during no transmission period.



## 11. Antenna Requirement

## **11.1. Standard Applicable**

According to §15.203, Antenna requirement.

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

## 11.2. Antenna Connected Construction

The directional gins of antenna used for transmitting is below table, and the antenna connector is designed with unique type RF connector and no consideration of replacement. Please see EUT photo and antenna spec. for details.

	Antenna Type	Brand	Model Peak Gain (dBi)		Frequency Range	Connector Type
1	PIFA	anjil	AJDF1J-B00 05	2400~2500MHz :2.46 5150~5350(MHz):4.93 5500~5700(MHz):4.57 5745~5825(MHz):4.66	2.4G&5G	i-pex
2	PIFA	ing 聯慶科 技股份有限 公司	T-543-92910 42-1	2400~2500MHz : -1.65 5150~5350(MHz):-1.14 5500~5700(MHz):-1.46 5745~5825(MHz):-1.73	2.4G&5G	i-pex
3	PIFA	ing 聯慶科 技股份有限 公司	T-543-92911 52-11	2400~2500MHz :-1.65 5150~5350(MHz):-1.14 5500~5700(MHz):-1.46 5745~5825(MHz):-1.73	2.4G&5G	i-pex
4	PIFA	TSKY CO., LTD.	A8-A006-00 541	2400~2500MHz :1.47 5150~5350(MHz):4.83 5500~5700(MHz):4.45 5745~5825(MHz):4.5	2.4G&5G	i-pex

Antenna Designation:



		1	1		I	
		TOKY CO		2400~2500MHz :2.7		
5	PIFA	TSKY CO.,	A8-A006-00	5150~5350(MHz):6.63	2.4G&5G	i-pex
		LTD.	509	5500~5700(MHz):5.78		
				5745~5825(MHz):5.55		
				2400~2500MHz :4.37		
6	PIFA	TSKY CO.,	A8-A006-00	5150~5350(MHz):3.26	2.4G&5G	i-pex
Ŭ		LTD.	543	5500~5700(MHz):4.62	2.1.00000	
				5745~5825(MHz):4.17		
				2400~2500MHz :2.33		
7	PIFA	TSKY CO.,	A8-A003-00	5150~5350(MHz):4.56	2.4G&5G	i-pex
	IIIA	LTD	185	5500~5700(MHz):4.33	2.400.00	грех
				5745~5825(MHz):3.18		
				2400~2500MHz :2.9		
8	Dinala	工题	RFA-25-T42	5150~5350(MHz):4.5	2.4G&5G	SMA
0	8 Dipole 亞驪	-U-M70	5500~5700(MHz):4.5	2.400,30	SMA	
				5745~5825(MHz):4.5		
				2400~2500MHz :4.25		
0	<b>D</b> <sup>1</sup> 1.	TSKY CO.,	A8-A003-00	5150~5350(MHz):3.64	2 4 6 8 5 6	CMA
9	Dipole	LTD	178	5500~5700(MHz):3.91	2.4G&5G	SMA
			5745~5825(MHz):2.06			
				2400~2500MHz :5.56		
10	D' 1	TSKY CO.,	A8-A006-00	5150~5350(MHz):4.36	2 40 8 50	
10	Dipole	LTD	522	5500~5700(MHz):4.66	2.4G&5G	SMA
				5745~5825(MHz):4.36		
				2400~2500MHz :2.78		
1.1			AJDF1J-B00	5150~5350(MHz):2.47	0.400.50	
11	PIFA	anjil	03	5500~5700(MHz):2.18	2.4G&5G	i-pex
				5745~5825(MHz):1.98		
				2400~2500MHz :-1.16		
		ing 聯慶科	T-543-92910	5150~5350(MHz):-1.37		
12	PIFA	技股份有限	48-1	5500~5700(MHz):-1.04	2.4G&5G	i-pex
		公司		5745~5825(MHz):-1.68		
		1		5, 15 5025(mill). 1.00		



## 12. TPC and DFS Measurement

## 12.1. TPC: Standard Applicable

According to §15.407(h)(1), Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

## 12.2. DFS: Standard Applicable

According to §15.407(h)(2), Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection.



# 13.2.1. Limit

 Table 1: Applicability of DFS requirements prior to use of a channel

	<b>Operational Mode</b>				
Requirement	Slave	Client(without radar detection)	Client(with radar detection)		
Non-occupancy Period	Yes	Not required	Yes		
DFS Detection Threshold	Yes	Not required	Yes		
Channel Availability Check Time	Yes	Not required	Not required		
Uniform Spreading	Yes	Not required	Not required		
U-NII Detection Band- width	Yes	Not required	Yes		

## Table 2: Applicability of DFS requirements during normal operation

_	Operational Mode				
Requirement	Slave	Client(without radar detection)	Client(with radar detection)		
DFS Detection Threshold	Yes	Not required	Yes		
Channel Closing Transmis- sion Time	Yes	Yes	Yes		
Channel Move Time	Yes	Yes	Yes		
U-NII Detection Bandwidth	Yes	Not required	Yes		



# Refer to KDB Number: 905462 APPENDIX B COMPLIANCE MEASUREMENT PROCE-DURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5.25-5.35 GHz AND 5.47-5.725 GHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION.

#### Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value				
	(see note)				
≥ 200 milliwatt	-64 dBm				
< 200 milliwatt	-62 dBm				
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna					
Note 2: Throughout these test procedures an additional 1 dB has been added to the					
amplitude of the test transmission waveforms to account for variations in measurement					
equipment. This will ensure that the test s	ignal is at or above the detection threshold level				

#### **Table 4: DFS Response requirement values**

to trigger a DFS response.

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
	See Note 1.
Channel Closing Transmission Time	200 milliseconds + an
	aggregate of 60
	milliseconds over
	remaining 10 second
	period.
	See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 80% of the U-
	NII 99% transmission
	power bandwidth. See
	Note 3.

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- · For the Short Pulse Radar Test Signals this instant is the end of the Burst.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.

**Note 2:** The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.



## **Table 5: Radar Test Waveforms**

#### Short Pulse Radar

Radar	Pulse Width	PRI	Number of Pulses	Minimum	Minimum
Туре	(µsec)	(µsec)		Percentage of	Number of
				Successful	Trials
				Detection	
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A	$\frac{\text{Roundup}}{\left\{ \begin{pmatrix} \frac{1}{360} \end{pmatrix}, \\ \left( \frac{19 \cdot 10^6}{\text{PRI}_{\mu \text{sec}}} \right) \right\}}$	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate ()	Radar Types 1-	4)		80%	120
	ort Pulse Rada hannel closing		sed for the detection ba	ndwidth test, ch	annel move

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. For Short Pulse Radar Type 1, the same waveform is used a minimum of 30 times. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms

#### Long Pulse Radar

	Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per <i>Burst</i>	Number of <i>Bursts</i>	Minimum Percentage of Successful Detection	Minimum Trials
-	5	50-100	5-20	1000- 2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.



#### **Frequency Hopping Radar**

adar ype	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	.333	300	70%	30

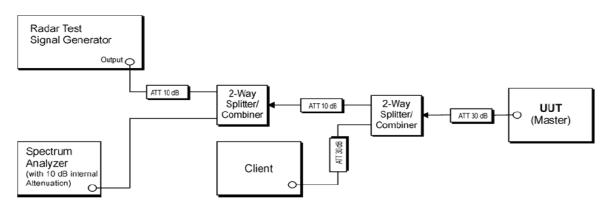
For the Frequency Hopping Radar Type, the same *Burst* parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm: 3

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 - 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

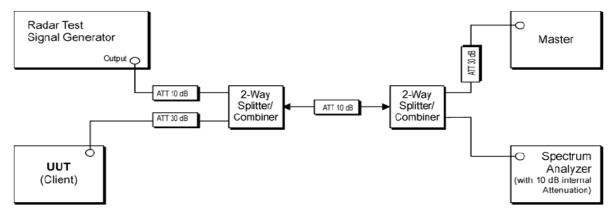


## 13.2.2. Test Setup

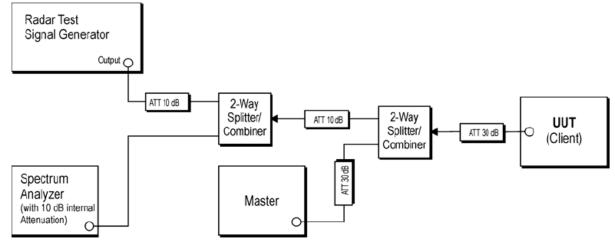
#### Setup for Master with injection at the Master



#### Setup for Client with injection at the Master



#### Setup for Client with injection at the Client



Note: device under test are configured with AP as IP based by streaming MPEG video, 30 frames per seconds

#### International Standards Laboratory Corp.

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted (DFS)	Signal Generator	Agilent	E4438C	MY49071550	12/29/2021	12/29/2022
Conducted (DFS)	Signal Generator	Keysight	N5182B	MY53052399	12/29/2021	12/29/2022
Conducted (DFS)	Spectrum analyzer	Keysight	N9010A	MY56070257	09/28/2022	09/28/2023
Conducted (DFS)	AP Router	Synology	RT1900ac	15B0N3N369502	NA	NA
Conducted (DFS)	USB Adapter	D-Link	DWA-182	QBYS1D800007 3	NA	NA
Conducted (DFS)	Direction Coupler	Krytar	1821S	1461	NA	NA
Conducted (DFS)	Splitter	Mini-Circuits	ZN2PD-63-S	UU97201111	NA	NA
Conducted (DFS)	Attenuator	Woken	Watt-65m3502	11051601	NA	NA
Conducted (DFS)	Cable	Draka	NA	NA	NA	NA
Conducted (TS8997)	Wideband Radio Communication Tester	R&S	CMW500	168811	09/22/2022	09/22/2023
Conducted (TS8997)	Signal Generator	R&S	SMB100B	101085	09/21/2022	09/21/2023
Conducted (TS8997)	Vector Signal Gen- erator	R&S	SMBV100A	263246	09/21/2022	09/21/2023
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/22/2022	09/22/2023
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/21/2022	09/21/2023
Conducted (TS8997)	Test Software	R&S	EMC32 Ver:11.10.00	NA	NA	NA



## 12.3.1. Description of EUT :

EUT operates over the 5250-5350MHz and 5470-5725MHz ranges and EUT is a slave device (client equipment) w/o radar detection and DFS capability.

The EUT utilizes the 802.11n architecture, with a nominal channel bandwidth of 80MHz WLAN traffic is generated by streaming the mpeg file from the master to slave in full monitor video mode using the media player.

The rated output power of the master unit is >23dBm(EIRP).therefore the required interference threshold level is -64dBm. The master device as employed for the applicable DFS test is router whose FCC ID= YOR-RT1900AC for Synology

## 12.4. Test results

Requirement	<b>Operational Mode: Client(without radar detection)</b>			
	Test Result	Remark		
Non-occupancy Period	No transmission in 30mins. (test results), pass (Remark)	Pass		
DFS Detection Threshold	N/A	N/A		
Channel Closing Transmis- sion Time	Less than 200ms, Refer to next page for plots.	Pass		
Channel Move Time	Less than 10s, Refer to next page for plots.	Pass		
U-NII Detection Bandwidth	N/A	N/A		

## Applicability of DFS requirements during normal operation

Input Level to Master AP= -64dBm



# DFS In-Service Monitoring (5290 MHz; 80 MHz)

## **Measurement Summary**

DUT Frequency (MHz)	Radar Type No.	Type of Measurement value	Overall Result
5290.000000	0	First of all Transmitt Test	
5290.000000	0	Channel Move Time	PASS
5290.000000	0	Channel Closing Transmission Time	PASS
5290.000000	0	Non-occupancy period	PASS

(continuation of the "Measurement Summary" table from column 4 ...)

## **Channel Move Time Detailed Results**

DUT Frequency (MHz)	Radar Type No.	CMT Tx Time (s)	CMT Limit (s)	CMT Result	CMT Comment
5290.000000	0	4.197	10.000	PASS	Tx Time value is last trailing edge found within sweep. See Note 1.

## **Channel Closing Transmission Time Detailed Results**

DUT Frequency (MHz)	Radar Type No.	CCTT Type of Value	CCTT No. of Pulses found	CCTT Tx Time
5290.000000	0	first 200 ms	701	(ms) 25.964
5290.000000	0	remaining 10.0 second(s) period	86	22.588

(continuation of the "Channel Closing Transmission Time Detailed Results" table from column 5 ...)

DUT Frequency (MHz)	CCTT Tx Time Limit (ms)	CCTT Result	CCTT Comment
5290.000000	200.000	PASS	See Note 1.
5290.000000	60.000	PASS	See Note 1.

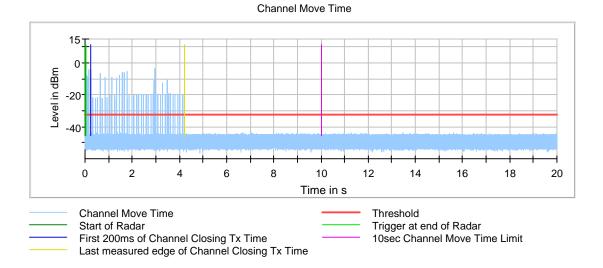
## **Non-occupancy period Detailed Results**

DUT Frequency (MHz)	Radar Type No.	NOP No. of Pulses found	NOP No. of Pulses Limit	NOP Tx Time (s)	NOP Tx Time Limit (s)	NOP Result
5290.000000	0	0	0	0.000	0.000	PASS

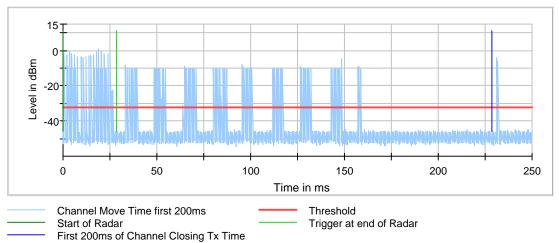
## **Transmitting Test Detailed Results**

DUT Frequency (MHz)	Tx-Test Result	Tx-Test Comment
5290.000000		not performed / not finished



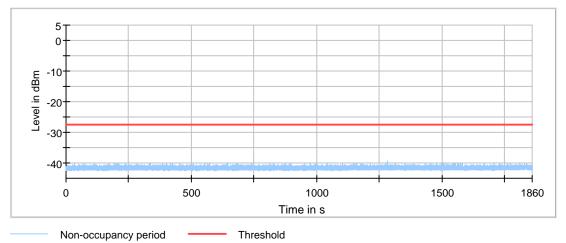


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#### Channel Move Time first 200ms







# DFS In-Service Monitoring (5530 MHz; 80 MHz)

## **Measurement Summary**

DUT Frequency (MHz)	Radar Type No.	Type of Measurement value	Overall Result
5530.000000	0	First of all Transmitt Test	
5530.000000	0	Channel Move Time	PASS
5530.000000	0	Channel Closing Transmission Time	PASS
5530.000000	0	Non-occupancy period	PASS

## **Channel Move Time Detailed Results**

DUT Frequency (MHz)	Radar Type No.	CMT Tx Time (s)	CMT Limit (s)	CMT Result	CMT Comment	
5530.000000	0	4.125	10.000	PASS	Tx Time value is last trailing edge found within sweep. See Note 1.	

## **Channel Closing Transmission Time Detailed Results**

DUT Frequency (MHz)	Radar Type No.	CCTT Type of Value	CCTT No. of Pulses found	CCTT Tx Time (ms)
5530.000000	0	first 200 ms	135	11.056
5530.000000	0	remaining 10.0 second(s) period	237	28.276

#### (continuation of the "Channel Closing Transmission Time Detailed Results" table from column 5 ...)

DUT Frequency (MHz)	CCTT Tx Time Limit (ms)	CCTT Result	CCTT Comment
5530.000000	200.000	PASS	See Note 1.
5530.000000	60.000	PASS	See Note 1.

## Non-occupancy period Detailed Results

DUT Frequency (MHz)	Radar Type No.	NOP No. of Pulses found	NOP No. of Pulses Limit	NOP Tx Time (s)	NOP Tx Time Limit (s)	NOP Result
5530.000000	0	0	0	0.000	0.000	PASS

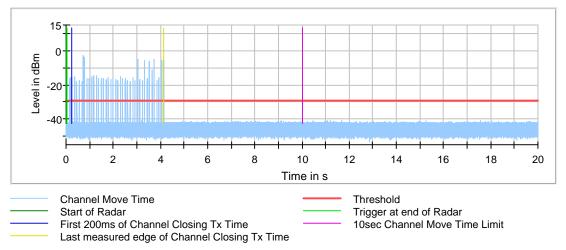
# **Transmitting Test Detailed Results**

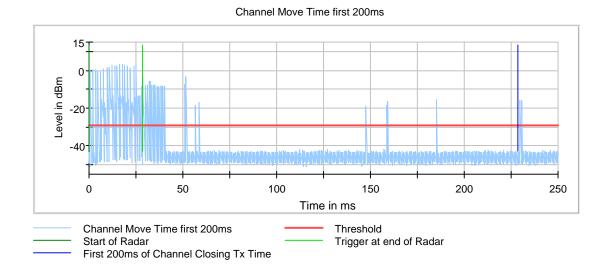
DUT Frequency (MHz)	Tx-Test Result	Tx-Test Comment
5530.000000		not performed / not finished



Channel Move Time

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Non-occupancy period

