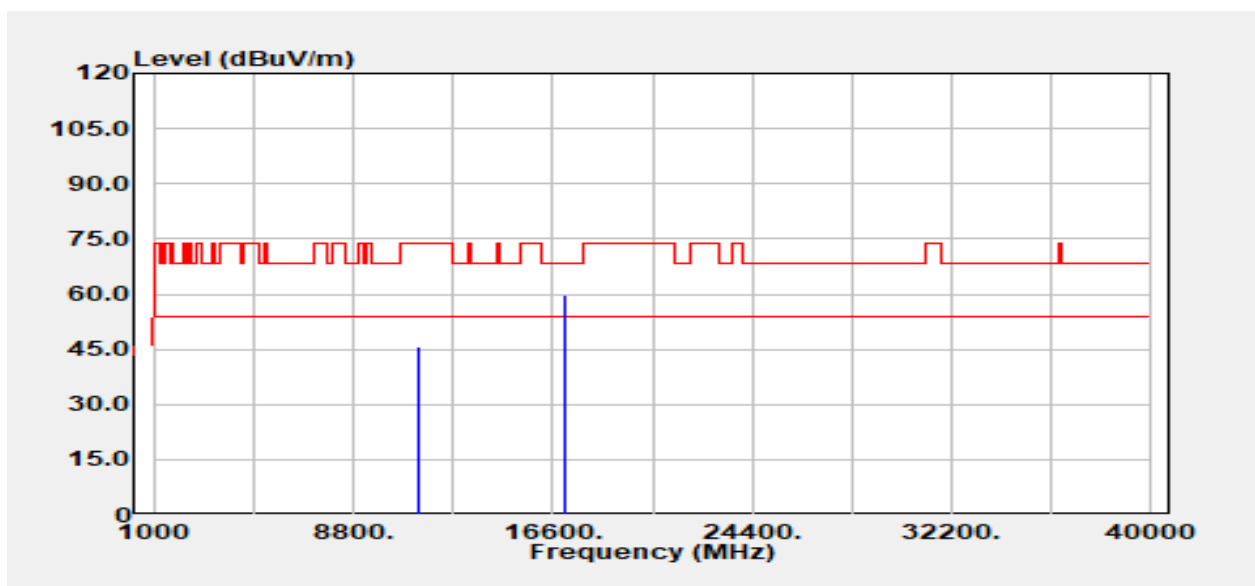


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Project No :TM-2309000207P
Operation Band :802.11n20/Band3
Frequency :5700 MHz
Operation Mode :TX
EUT Pol :E2
Setting :33

Test Date :2024-06-14
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



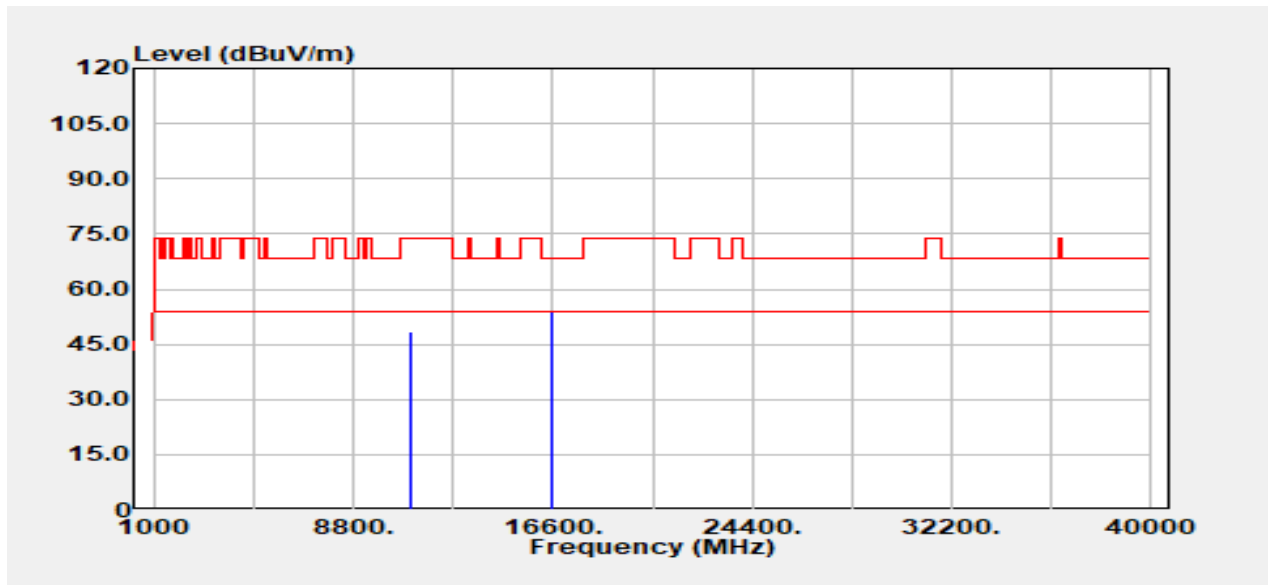
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11400.00	Peak	32.10	13.81	45.91	74.00	-28.09
11400.00	Average	25.64	13.81	39.45	54.00	-14.55
17100.00	Peak	32.28	27.61	59.89	68.20	-8.31

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Project No :TM-2309000207P
Operation Band :802.11n40/Band3
Frequency :5510 MHz
Operation Mode :TX
EUT Pol :E2
Setting :28

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A



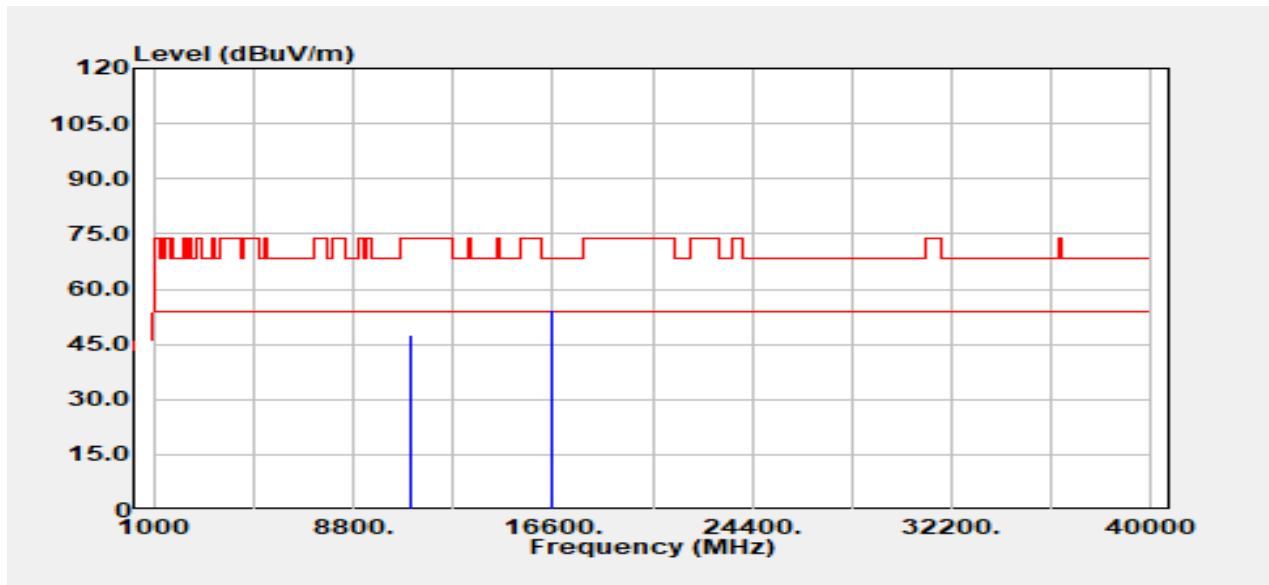
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11020.00	Peak	34.60	13.75	48.35	74.00	-25.65
11020.00	Average	27.53	13.75	41.28	54.00	-12.72
16530.00	Peak	33.07	20.98	54.04	68.20	-14.16

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Project No :TM-2309000207P
Operation Band :802.11n40/Band3
Frequency :5510 MHz
Operation Mode :TX
EUT Pol :E2
Setting :28

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Ray Li
Test Chamber : 966A



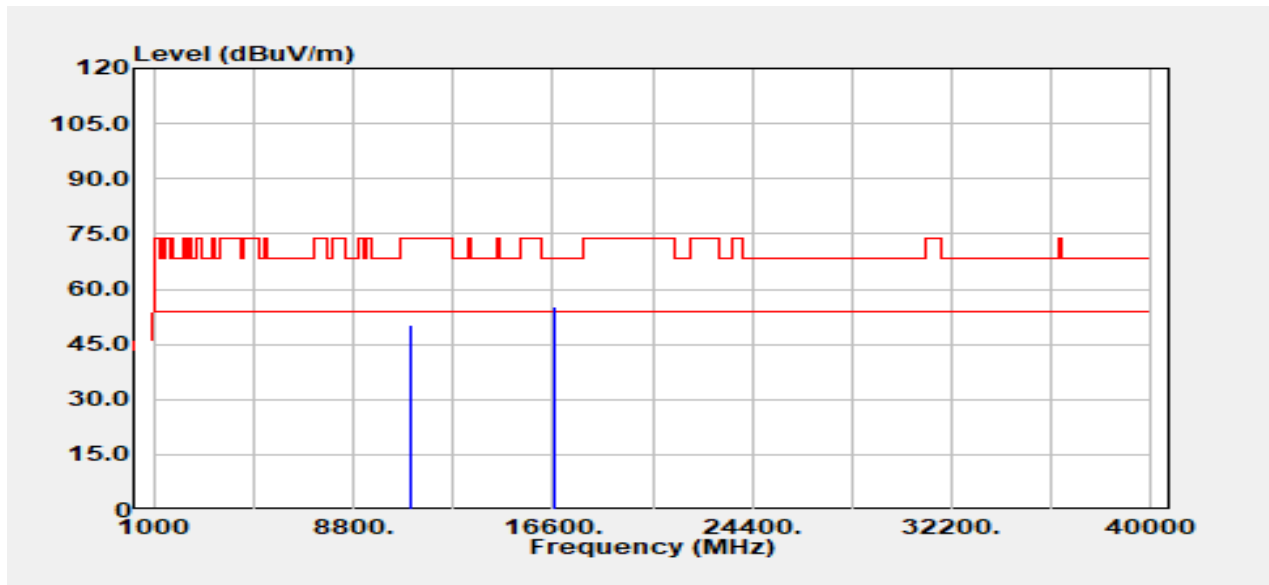
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11020.00	Peak	33.88	13.75	47.63	74.00	-26.37
11020.00	Average	26.07	13.75	39.82	54.00	-14.18
16530.00	Peak	33.28	20.98	54.26	68.20	-13.94

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Project No :TM-2309000207P
Operation Band :802.11n40/Band3
Frequency :5550 MHz
Operation Mode :TX
EUT Pol :E2
Setting :40

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A



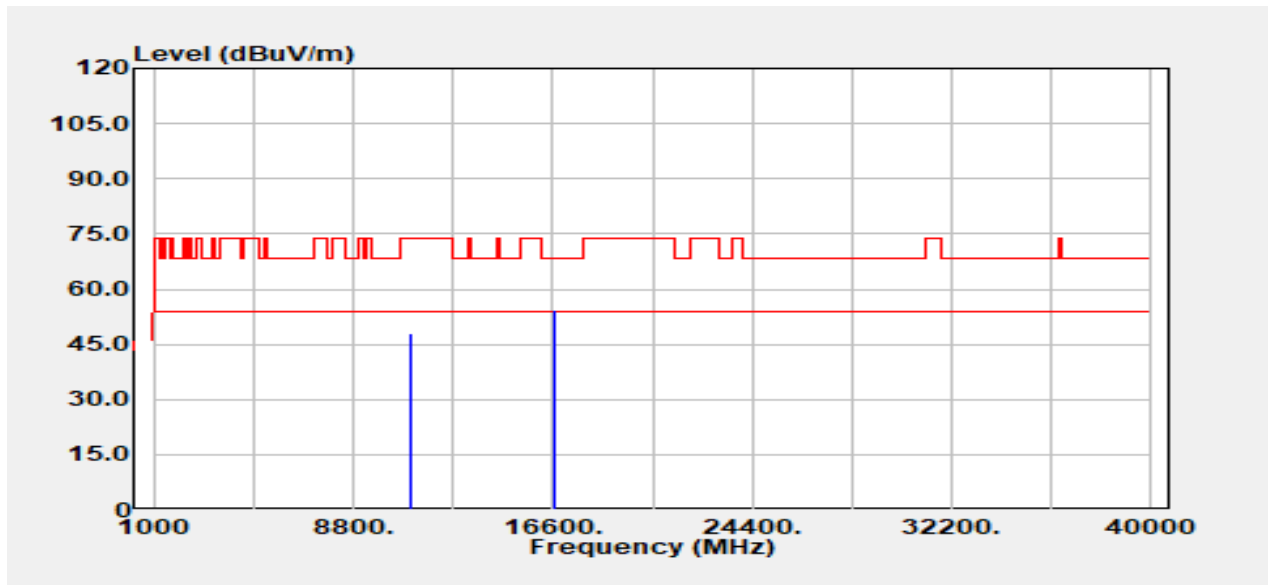
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11100.00	Peak	36.36	13.93	50.29	74.00	-23.71
11100.00	Average	28.52	13.93	42.45	54.00	-11.55
16650.00	Peak	33.84	21.52	55.36	68.20	-12.84

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Project No :TM-2309000207P
Operation Band :802.11n40/Band3
Frequency :5550 MHz
Operation Mode :TX
EUT Pol :E2
Setting :40

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Ray Li
Test Chamber : 966A



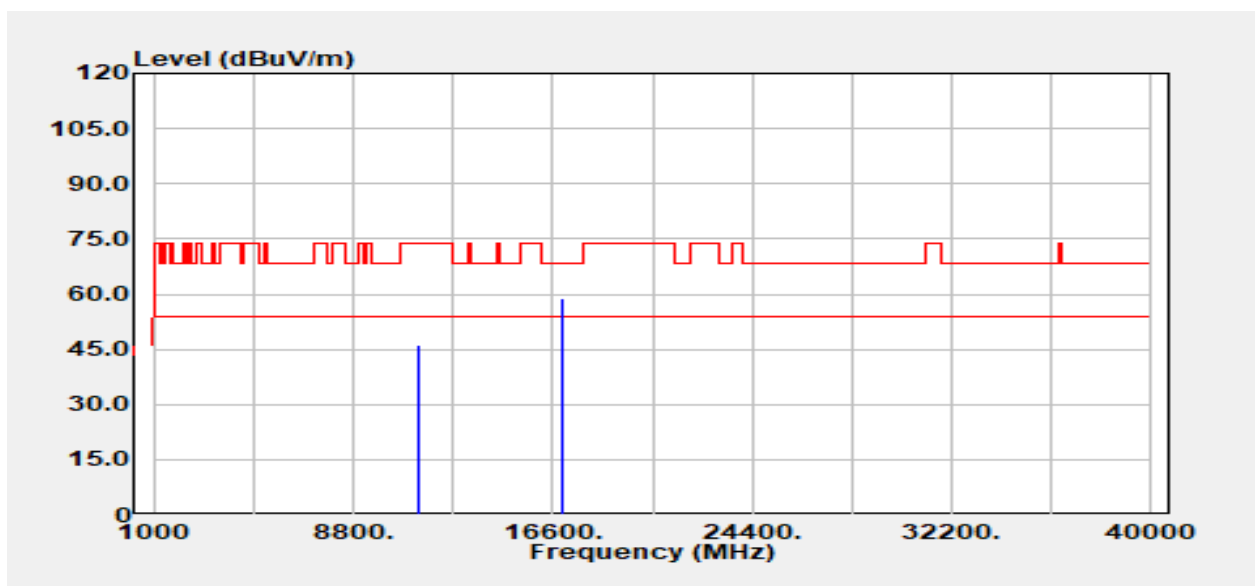
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11100.00	Peak	34.25	13.93	48.18	74.00	-25.82
11100.00	Average	26.85	13.93	40.78	54.00	-13.22
16650.00	Peak	32.78	21.52	54.30	68.20	-13.90

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Project No :TM-2309000207P
Operation Band :802.11n40/Band3
Frequency :5670 MHz
Operation Mode :TX
EUT Pol :E2
Setting :33

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A



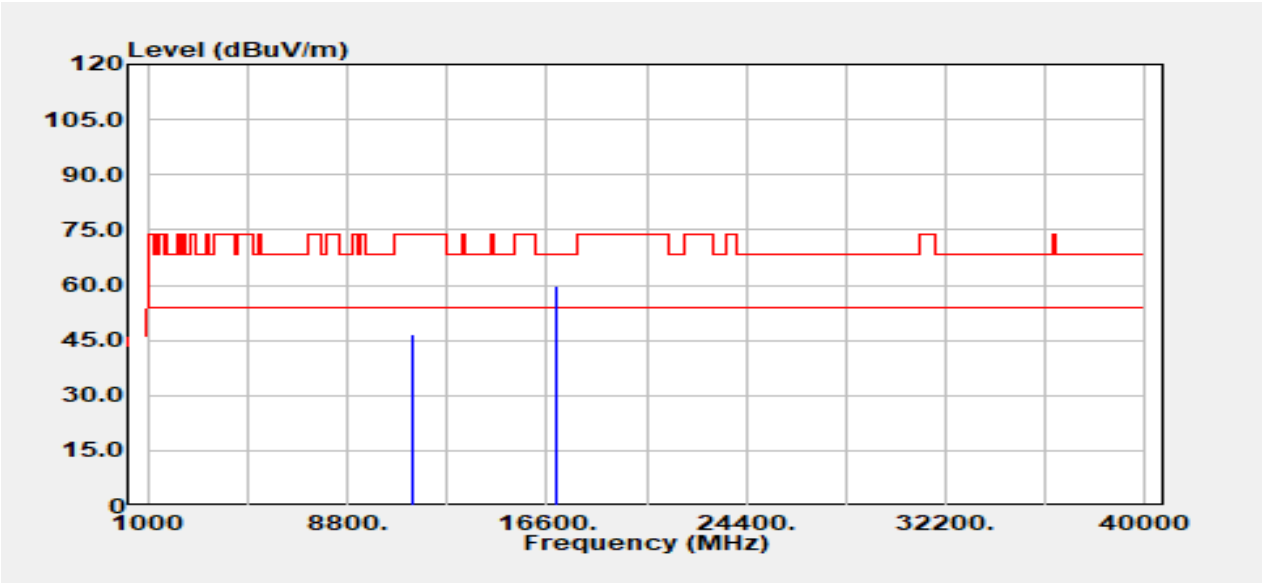
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11340.00	Peak	32.18	13.87	46.05	74.00	-27.95
11340.00	Average	25.92	13.87	39.78	54.00	-14.22
17010.00	Peak	31.96	26.82	58.78	68.20	-9.42



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Project No	:TM-2309000207P	Test Date	:2024-06-17
Operation Band	:802.11n40/Band3	Temp./Humi.	:24.6/57
Frequency	:5670 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:E2	Test Chamber	: 966A
Setting	:33		



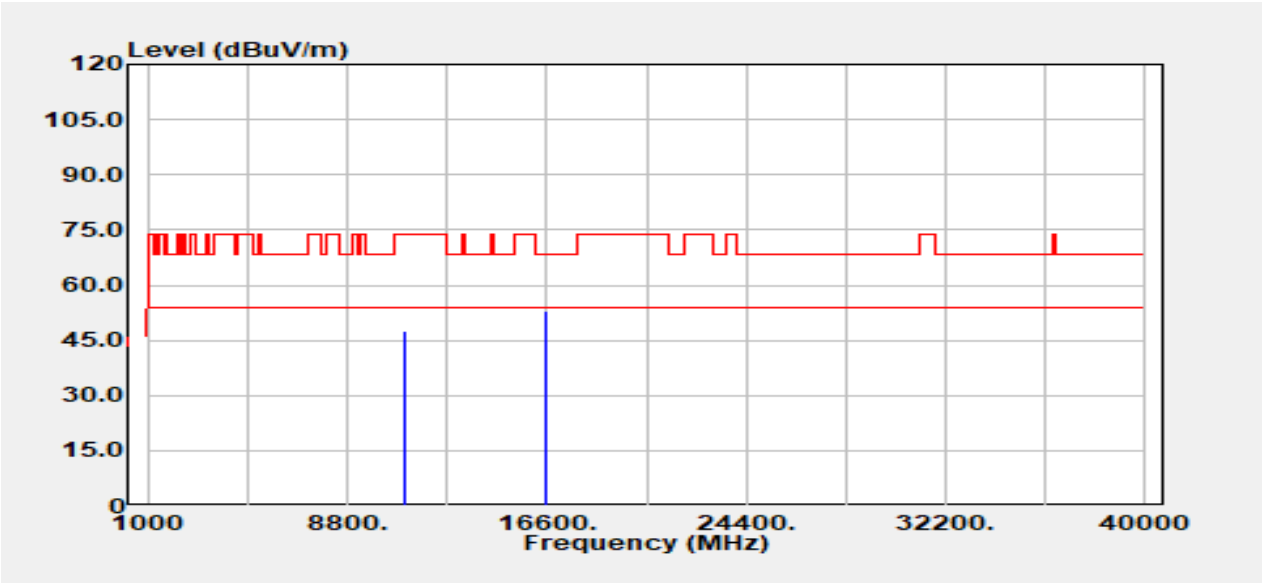
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11340.00	Peak	32.96	13.87	46.82	74.00	-27.18
11340.00	Average	25.46	13.87	39.32	54.00	-14.68
17010.00	Peak	33.01	26.82	59.83	68.20	-8.37



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Project No	:TM-2309000207P	Test Date	:2024-06-18
Operation Band	:802.11ac80/Band3	Temp./Humi.	:24.6/57
Frequency	:5530 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:29		



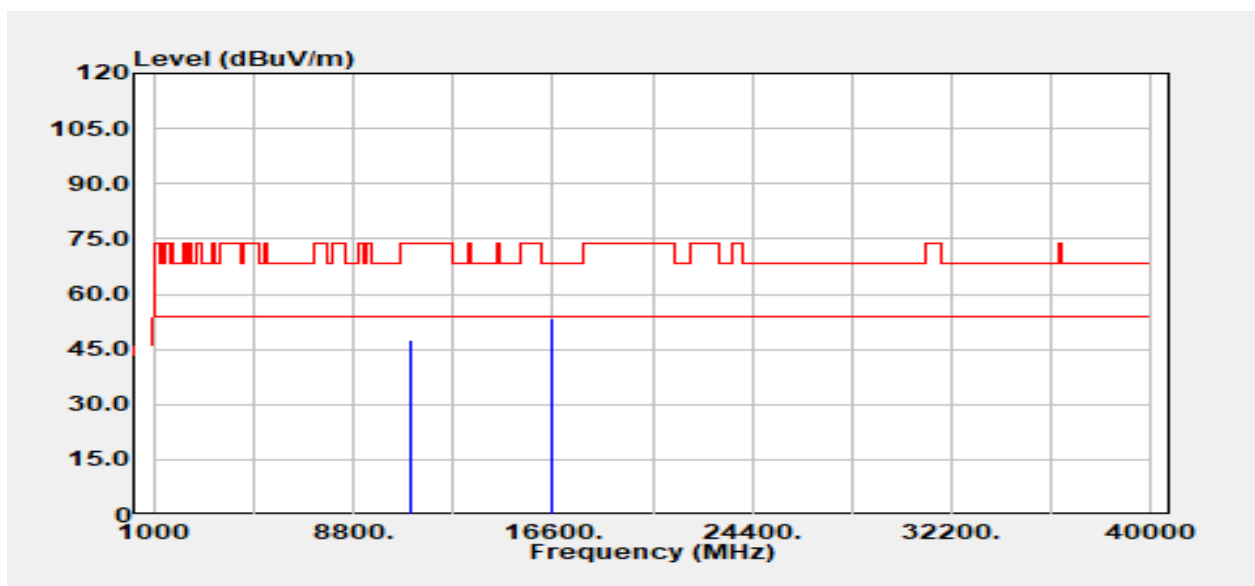
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11060.00	Peak	33.72	13.97	47.69	74.00	-26.31
11060.00	Average	26.79	13.97	40.77	54.00	-13.23
16590.00	Peak	31.74	21.10	52.84	68.20	-15.36

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Project No :TM-2309000207P
Operation Band :802.11ac80/Band3
Frequency :5530 MHz
Operation Mode :TX
EUT Pol :E2
Setting :29

Test Date :2024-06-18
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



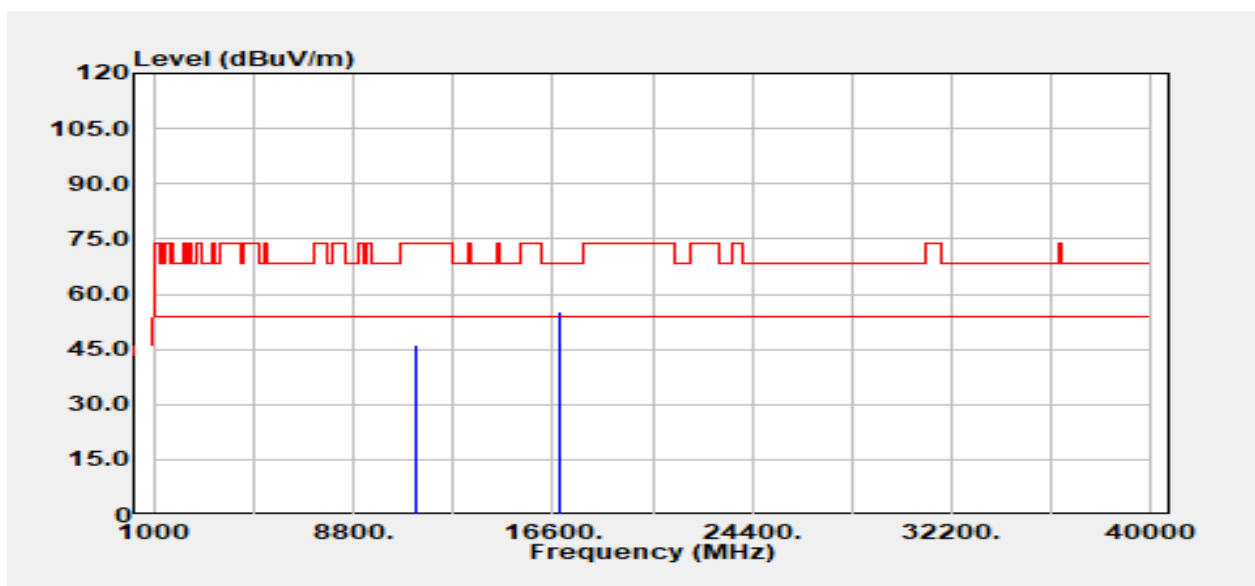
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11060.00	Peak	33.76	13.97	47.74	74.00	-26.26
11060.00	Average	26.83	13.97	40.80	54.00	-13.20
16590.00	Peak	32.42	21.10	53.52	68.20	-14.68

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Project No :TM-2309000207P
Operation Band :802.11ac80/Band3
Frequency :5610 MHz
Operation Mode :TX
EUT Pol :E2
Setting :36

Test Date :2024-06-18
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



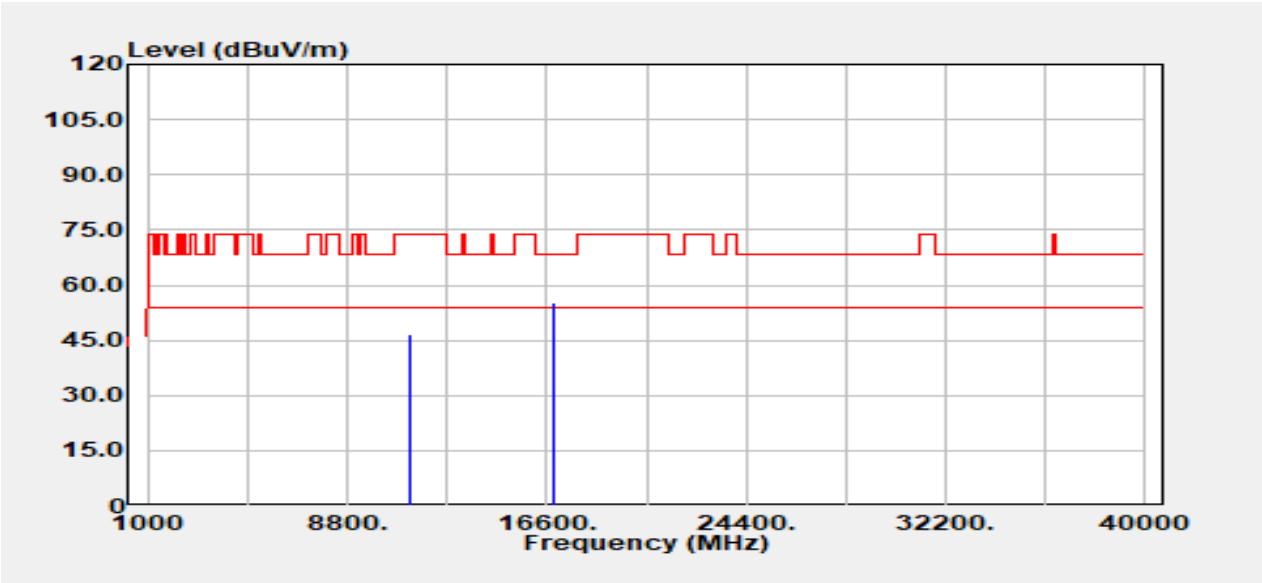
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11220.00	Peak	32.21	13.87	46.08	74.00	-27.92
11220.00	Average	25.98	13.87	39.86	54.00	-14.14
16830.00	Peak	31.22	24.12	55.33	68.20	-12.87



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Project No	:TM-2309000207P	Test Date	:2024-06-18
Operation Band	:802.11ac80/Band3	Temp./Humi.	:24.6/57
Frequency	:5610 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:36		



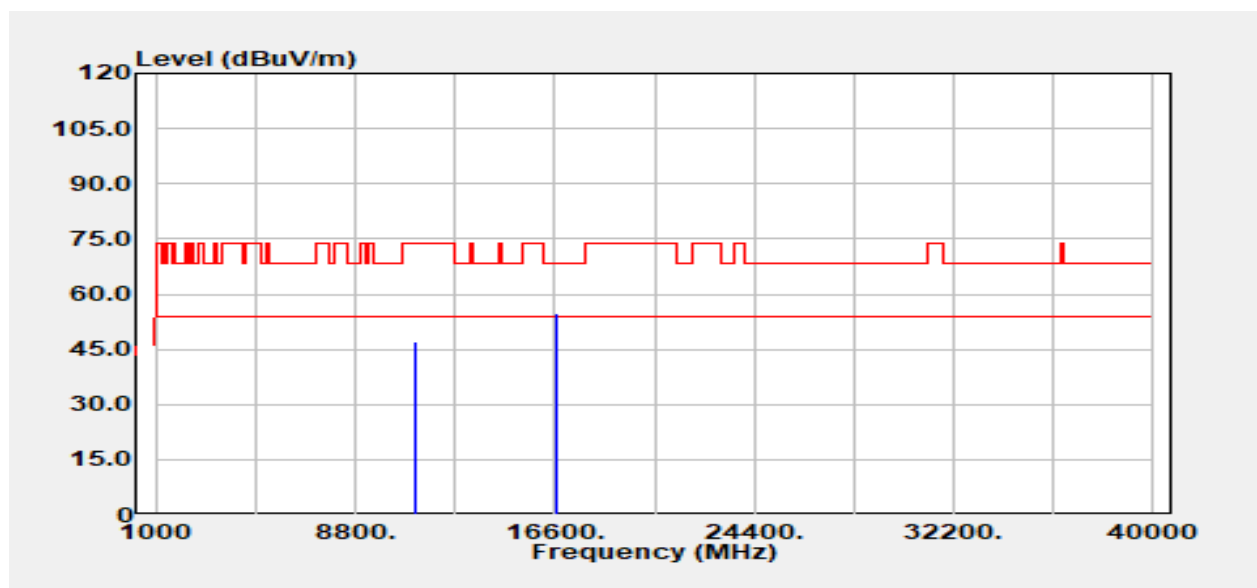
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11220.00	Peak	32.97	13.87	46.85	74.00	-27.15
11220.00	Average	26.00	13.87	39.88	54.00	-14.12
16830.00	Peak	31.15	24.12	55.26	68.20	-12.94

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Project No :TM-2309000207P
Operation Band :802.11ac160/Band3
Frequency :5570 MHz
Operation Mode :TX
EUT Pol :E2
Setting :28

Test Date :2024-06-18
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



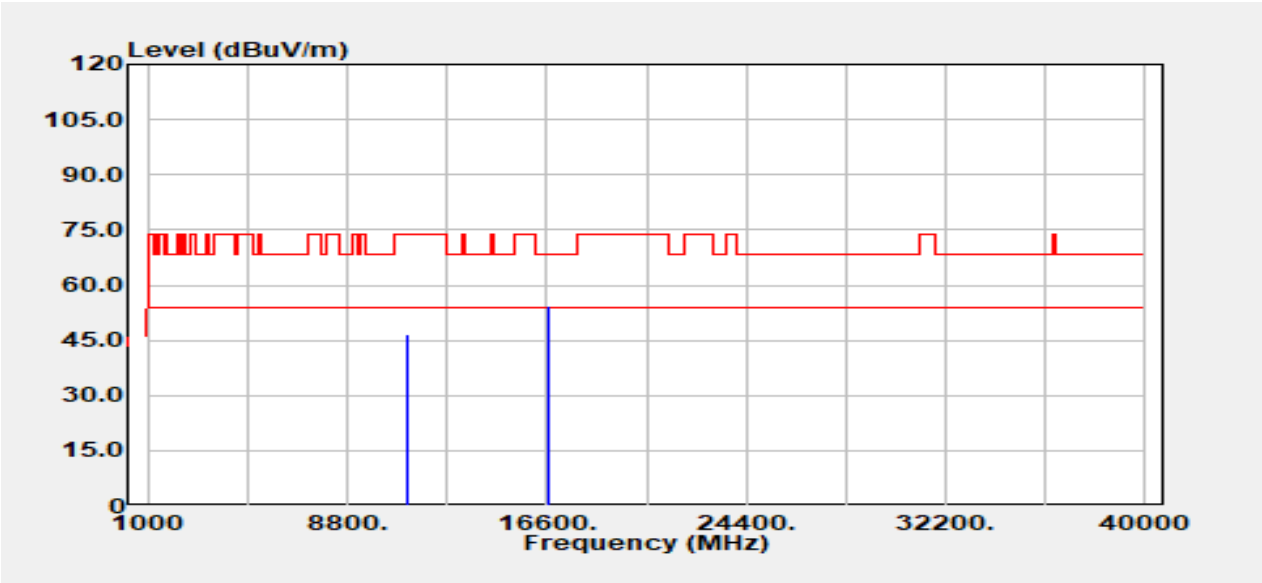
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11140.00	Peak	33.36	13.64	47.00	74.00	-27.00
11140.00	Average	26.38	13.64	40.02	54.00	-13.98
16710.00	Peak	32.44	22.35	54.79	68.20	-13.41



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Project No	:TM-2309000207P	Test Date	:2024-06-18
Operation Band	:802.11ac160/Band3	Temp./Humi.	:24.6/57
Frequency	:5570 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:28		



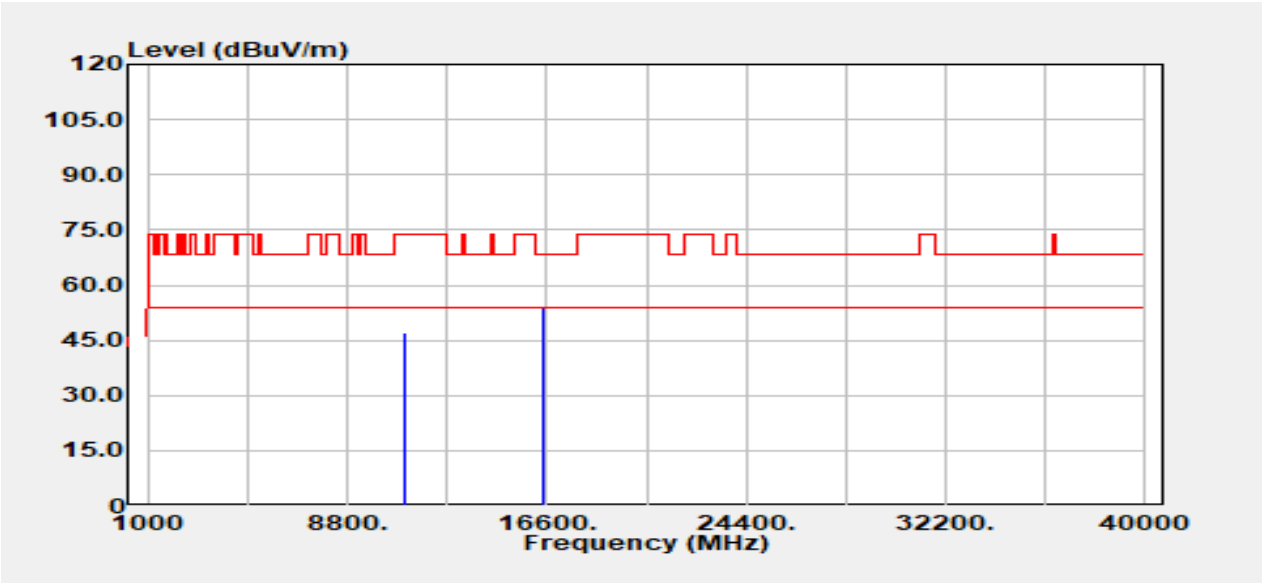
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11140.00	Peak	32.87	13.64	46.51	74.00	-27.49
11140.00	Average	26.45	13.64	40.09	54.00	-13.91
16710.00	Peak	31.94	22.35	54.29	68.20	-13.91



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Project No	:TM-2309000207P	Test Date	:2024-06-19
Operation Band	:802.11ax20/Band3	Temp./Humi.	:24.5/58
Frequency	:5500 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:30		



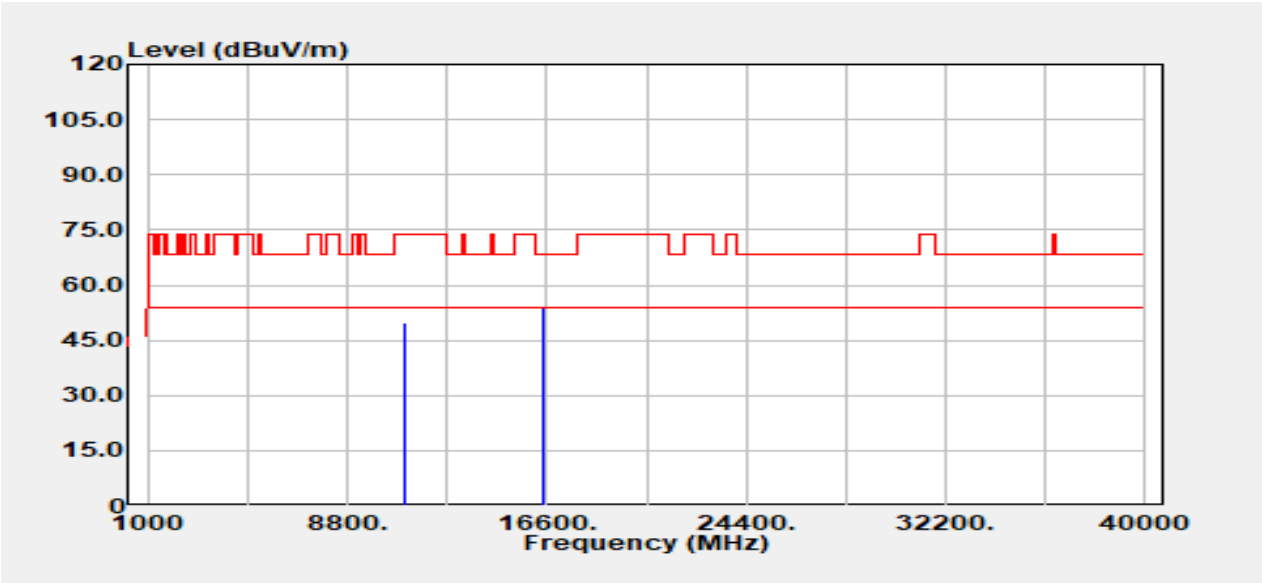
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11000.00	Peak	33.47	13.59	47.06	74.00	-26.94
11000.00	Average	30.43	13.59	44.02	54.00	-9.98
16500.00	Peak	32.53	21.16	53.69	68.20	-14.51



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Project No	:TM-2309000207P	Test Date	:2024-06-19
Operation Band	:802.11ax20/Band3	Temp./Humi.	:24.5/58
Frequency	:5500 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:30		



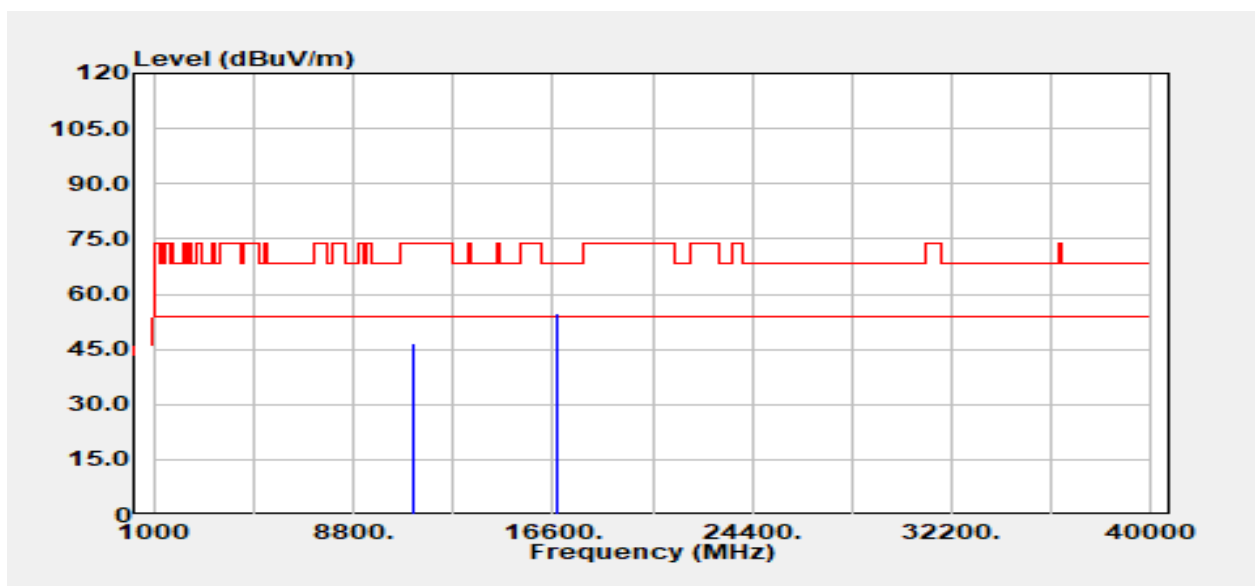
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11000.00	Peak	36.41	13.59	50.00	74.00	-24.00
11000.00	Average	27.12	13.59	40.71	54.00	-13.29
16500.00	Peak	32.77	21.16	53.93	68.20	-14.27

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Project No :TM-2309000207P
Operation Band :802.11ax20/Band3
Frequency :5580 MHz
Operation Mode :TX
EUT Pol :E2
Setting :30

Test Date :2024-06-19
Temp./Humi. :24.5/58
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



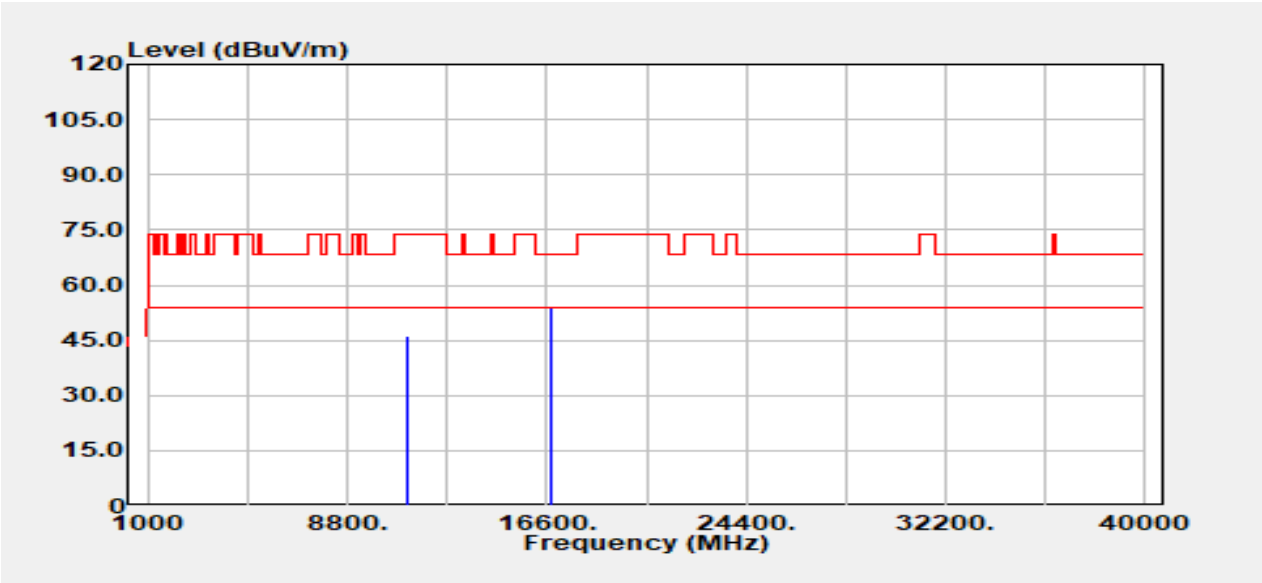
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11160.00	Peak	32.82	13.61	46.43	74.00	-27.57
11160.00	Average	26.51	13.61	40.12	54.00	-13.88
16740.00	Peak	32.15	22.60	54.76	68.20	-13.44



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Project No	:TM-2309000207P	Test Date	:2024-06-19
Operation Band	:802.11ax20/Band3	Temp./Humi.	:24.5/58
Frequency	:5580 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:30		



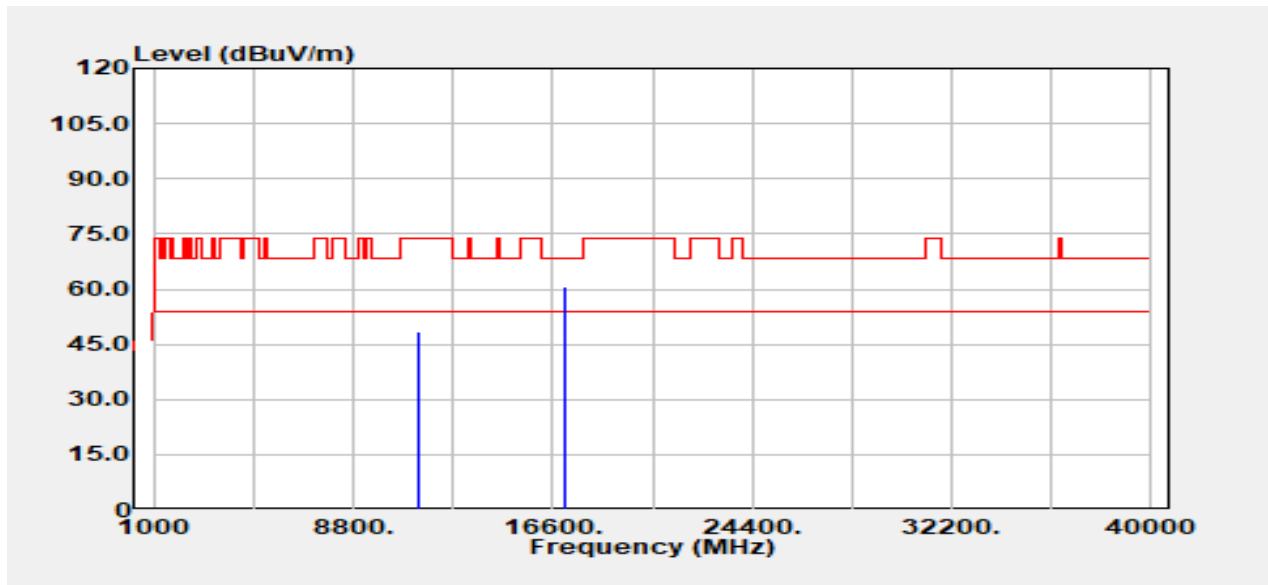
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11160.00	Peak	32.40	13.61	46.01	74.00	-27.99
11160.00	Average	26.42	13.61	40.03	54.00	-13.97
16740.00	Peak	31.50	22.60	54.10	68.20	-14.10

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Project No :TM-2309000207P
Operation Band :802.11ax20/Band3
Frequency :5700 MHz
Operation Mode :TX
EUT Pol :E2
Setting :30

Test Date :2024-06-19
Temp./Humi. :24.5/58
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



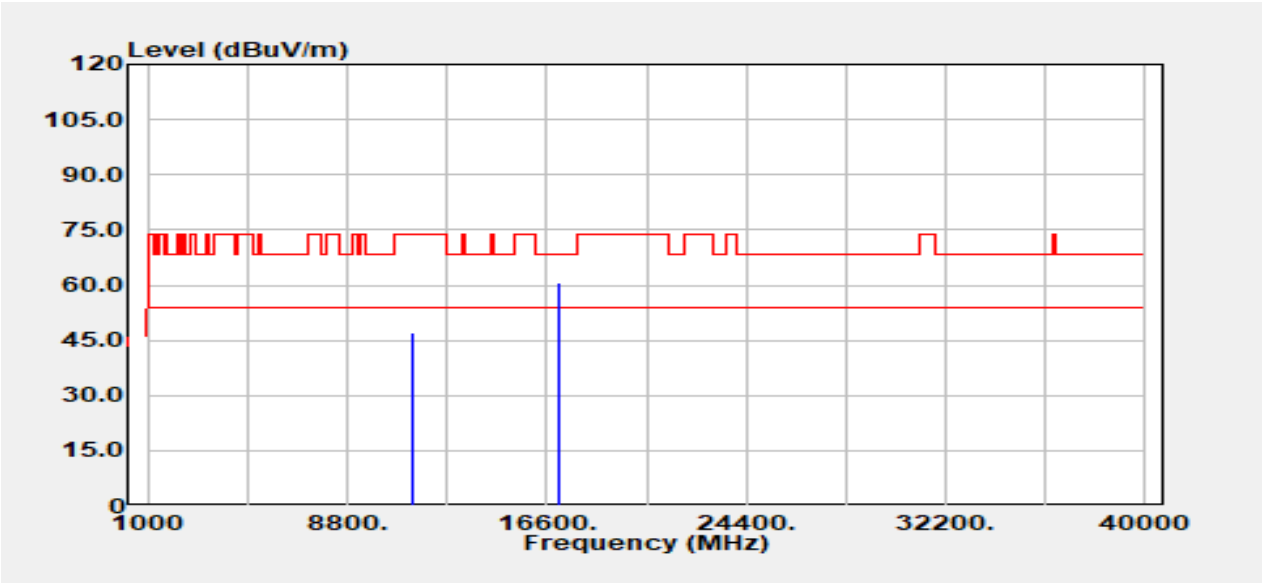
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11400.00	Peak	34.44	13.81	48.25	74.00	-25.75
11400.00	Average	27.71	13.81	41.52	54.00	-12.48
17100.00	Peak	33.26	27.61	60.87	68.20	-7.33



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Project No	:TM-2309000207P	Test Date	:2024-06-19
Operation Band	:802.11ax20/Band3	Temp./Humi.	:24.5/58
Frequency	:5700 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:30		



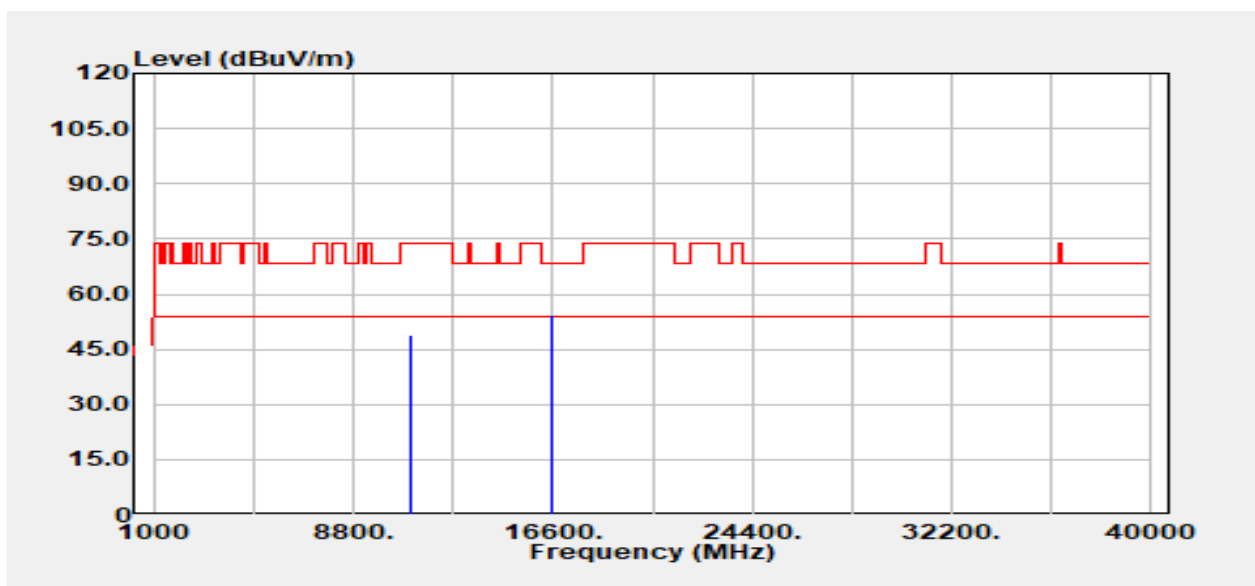
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11400.00	Peak	33.14	13.81	46.95	74.00	-27.05
11400.00	Average	26.10	13.81	39.91	54.00	-14.09
17100.00	Peak	33.03	27.61	60.64	68.20	-7.56

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Project No :TM-2309000207P
Operation Band :802.11ax40/Band3
Frequency :5510 MHz
Operation Mode :TX
EUT Pol :E2
Setting :29

Test Date :2024-06-20
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Tony Chao
Test Chamber : 966A



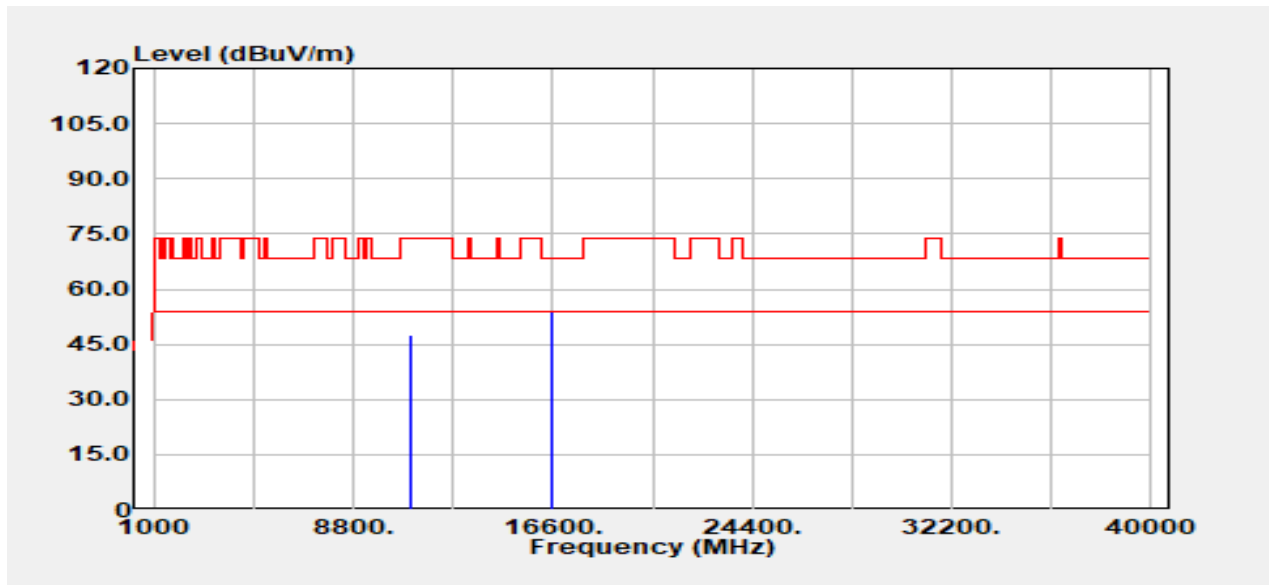
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11020.00	Peak	35.04	13.75	48.79	74.00	-25.21
11020.00	Average	26.48	13.75	40.23	54.00	-13.77
16530.00	Peak	33.47	20.98	54.44	68.20	-13.76

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Project No :TM-2309000207P
Operation Band :802.11ax40/Band3
Frequency :5510 MHz
Operation Mode :TX
EUT Pol :E2
Setting :29

Test Date :2024-06-20
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



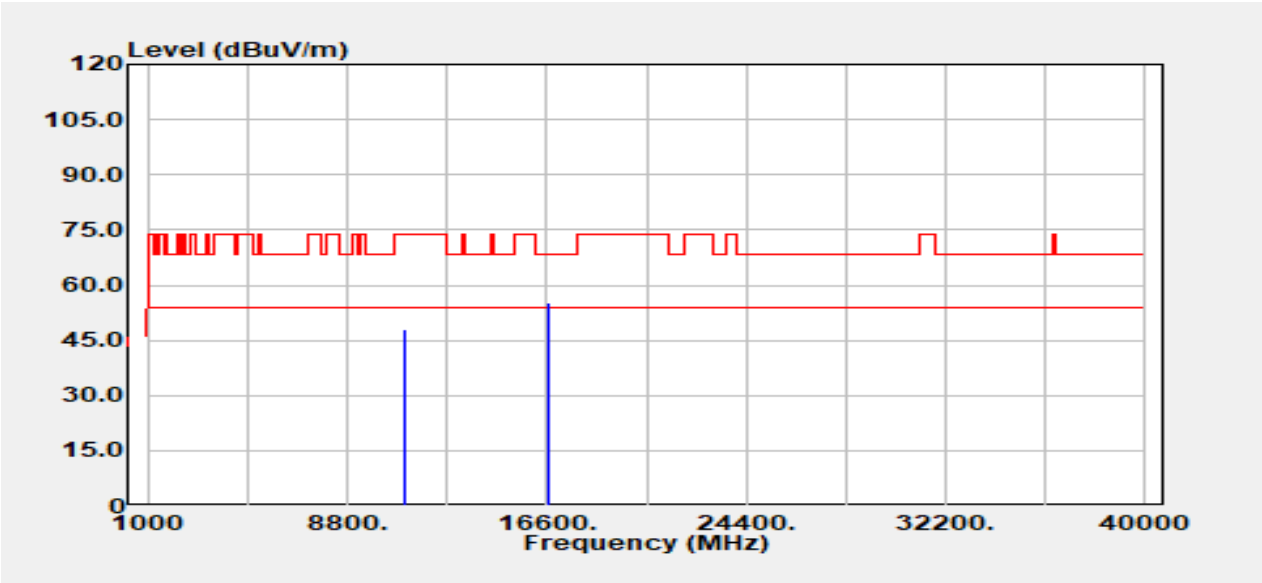
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBUV	Factor dB	Actual FS dBUV/m	Limit dBUV/m	Margin dB
11020.00	Peak	33.97	13.75	47.72	74.00	-26.28
11020.00	Average	25.19	13.75	38.94	54.00	-15.06
16530.00	Peak	33.13	20.98	54.11	68.20	-14.09



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Project No	:TM-2309000207P	Test Date	:2024-06-20
Operation Band	:802.11ax40/Band3	Temp./Humi.	:24.6/57
Frequency	:5550 MHz	Antenna Pol.	:VERTICAL
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:39		



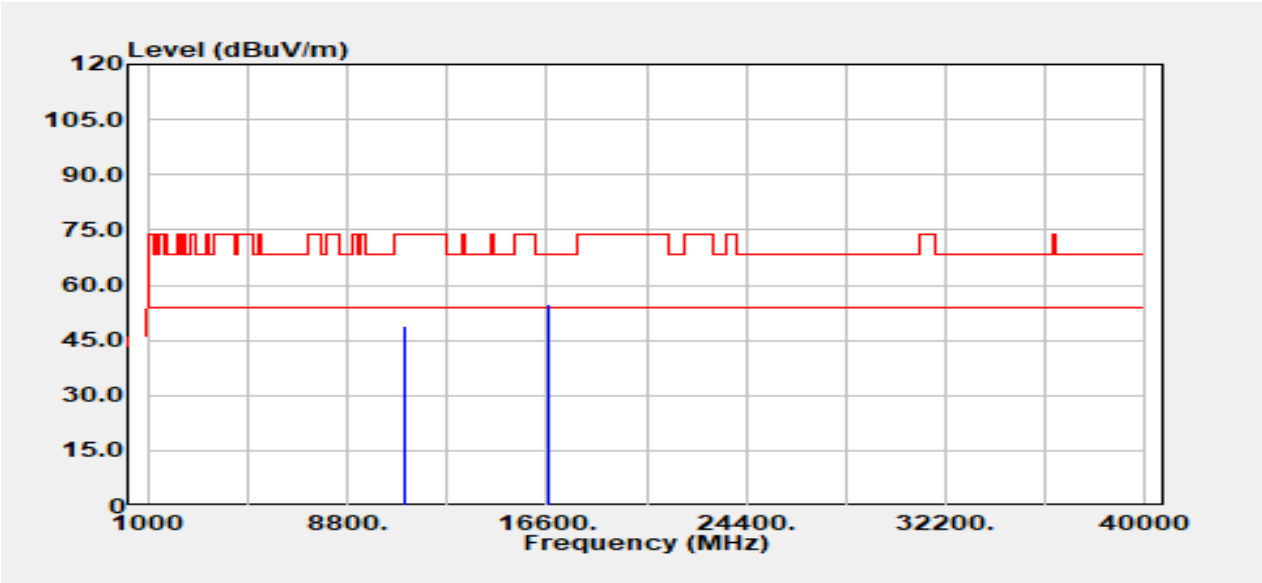
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11100.00	Peak	33.98	13.93	47.91	74.00	-26.09
11100.00	Average	26.87	13.93	40.80	54.00	-13.20
16650.00	Peak	33.77	21.52	55.29	68.20	-12.91



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Project No	:TM-2309000207P	Test Date	:2024-06-20
Operation Band	:802.11ax40/Band3	Temp./Humi.	:24.6/57
Frequency	:5550 MHz	Antenna Pol.	:HORIZONTAL
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:39		



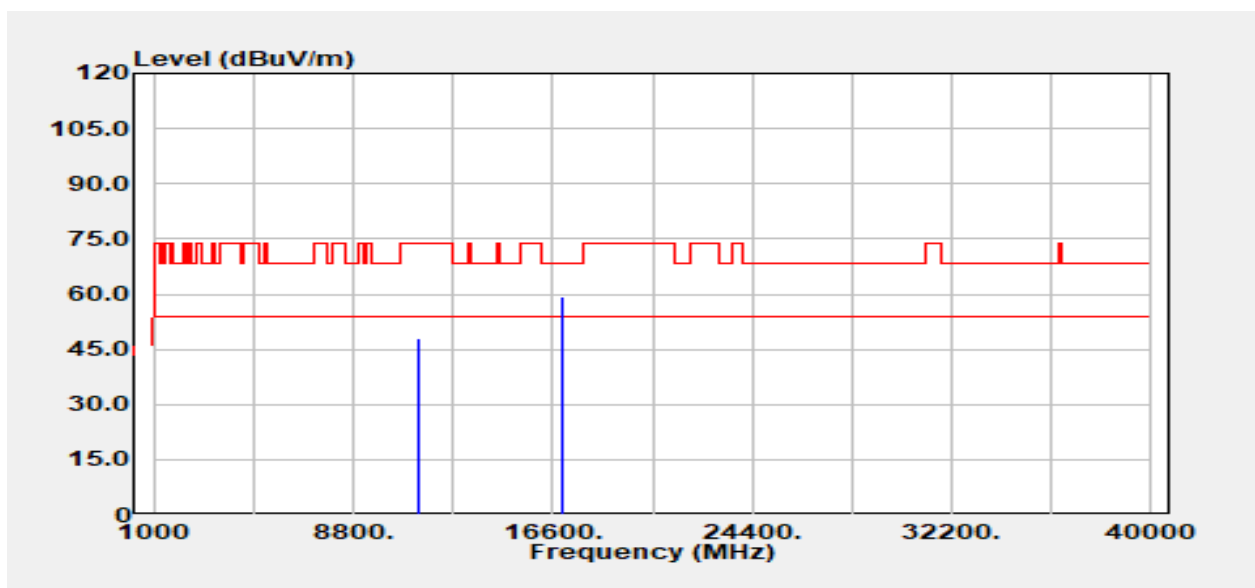
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11100.00	Peak	34.85	13.93	48.78	74.00	-25.22
11100.00	Average	26.75	13.93	40.68	54.00	-13.32
16650.00	Peak	33.33	21.52	54.85	68.20	-13.35

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Project No :TM-2309000207P
Operation Band :802.11ax40/Band3
Frequency :5670 MHz
Operation Mode :TX
EUT Pol :E2
Setting :36

Test Date :2024-06-20
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Tony Chao
Test Chamber : 966A



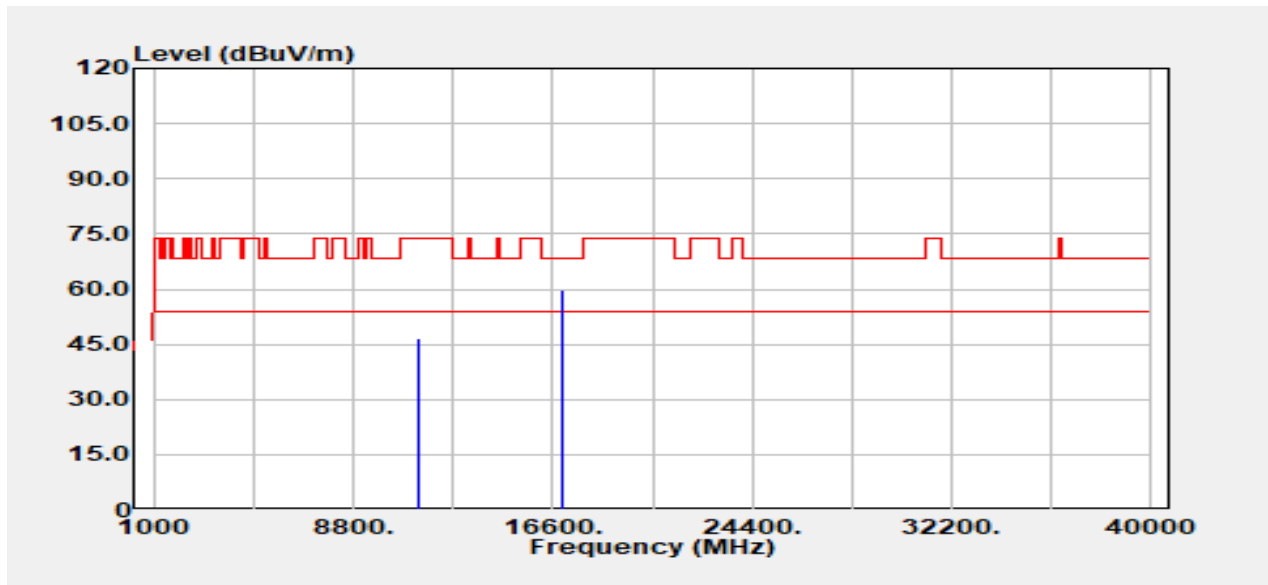
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11340.00	Peak	34.09	13.87	47.96	74.00	-26.04
11340.00	Average	26.41	13.87	40.27	54.00	-13.73
17010.00	Peak	32.59	26.82	59.42	68.20	-8.78

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Project No :TM-2309000207P
Operation Band :802.11ax40/Band3
Frequency :5670 MHz
Operation Mode :TX
EUT Pol :E2
Setting :36

Test Date :2024-06-20
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



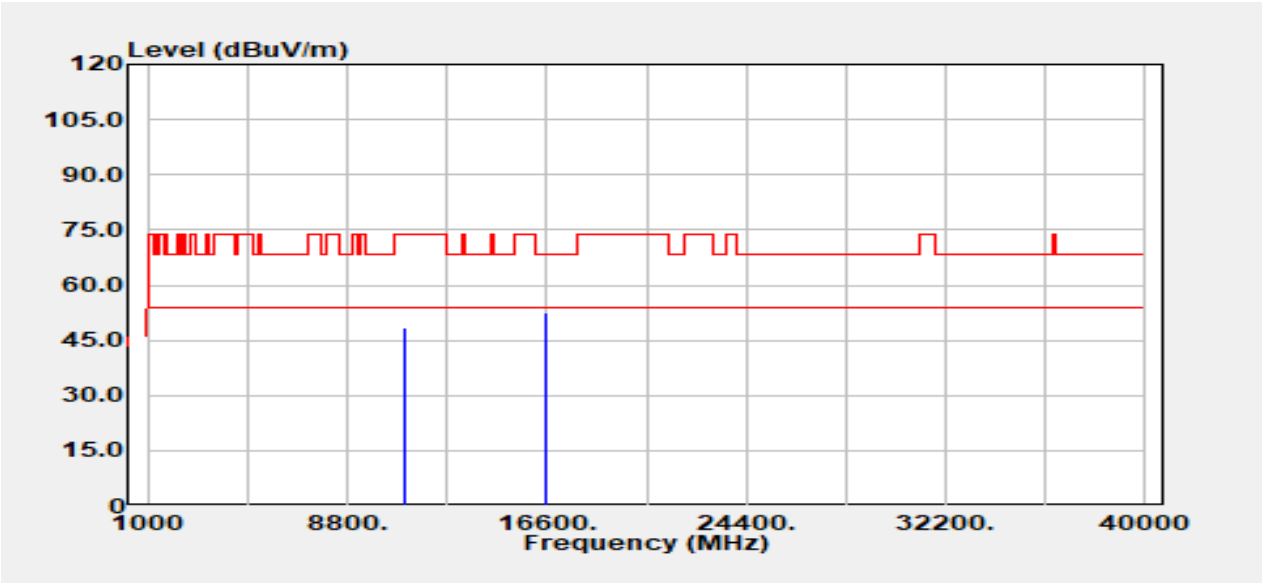
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11340.00	Peak	32.99	13.87	46.85	74.00	-27.15
11340.00	Average	25.88	13.87	39.75	54.00	-14.26
17010.00	Peak	33.06	26.82	59.88	68.20	-8.32



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Project No	:TM-2309000207P	Test Date	:2024-06-21
Operation Band	:802.11ax80/Band3	Temp./Humi.	:24.6/57
Frequency	:5530 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:26		



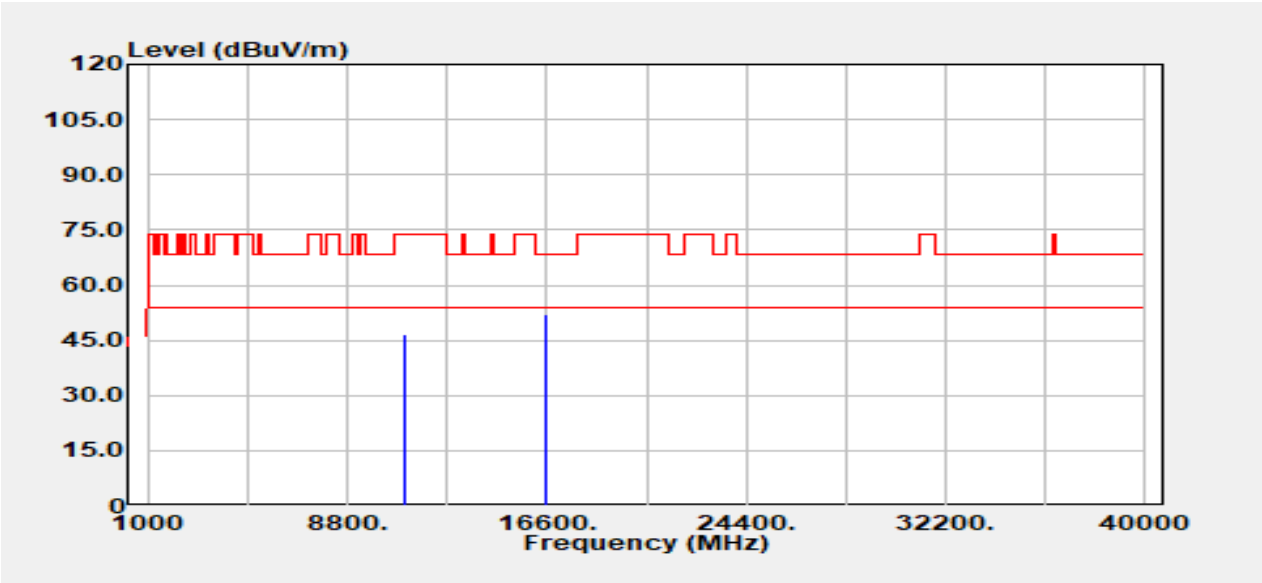
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11060.00	Peak	34.45	13.97	48.42	74.00	-25.58
11060.00	Average	26.49	13.97	40.47	54.00	-13.53
16590.00	Peak	31.50	21.10	52.60	68.20	-15.60



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Project No	:TM-2309000207P	Test Date	:2024-06-21
Operation Band	:802.11ax80/Band3	Temp./Humi.	:24.6/57
Frequency	:5530 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:26		



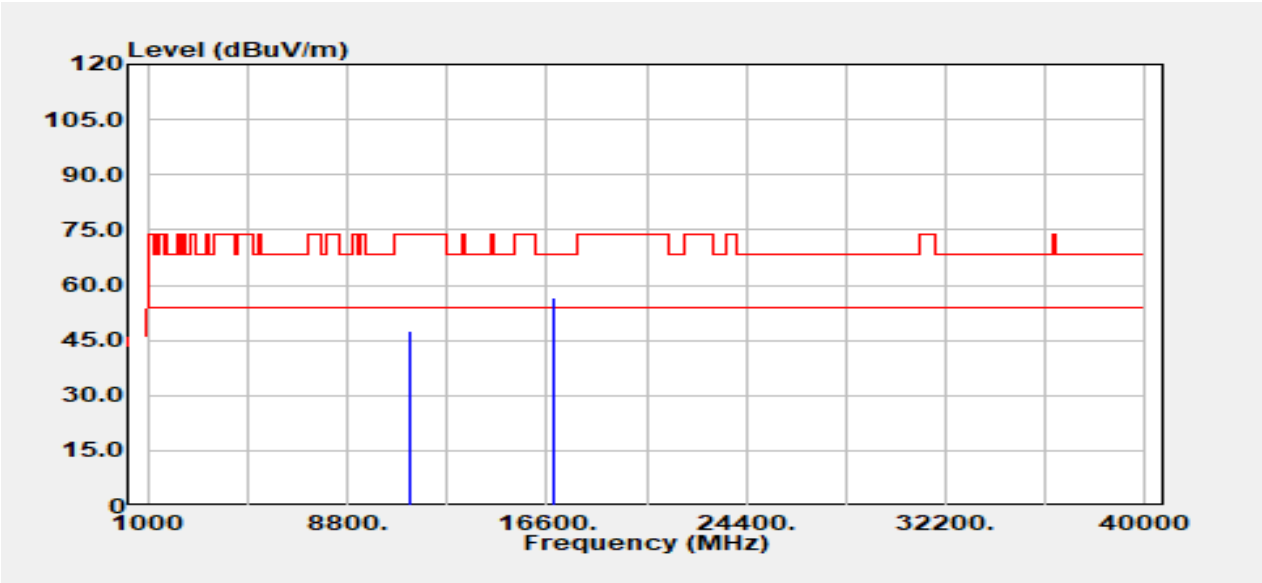
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11060.00	Peak	32.73	13.97	46.71	74.00	-27.29
11060.00	Average	26.42	13.97	40.39	54.00	-13.61
16590.00	Peak	31.04	21.10	52.14	68.20	-16.06



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Project No	:TM-2309000207P	Test Date	:2024-06-21
Operation Band	:802.11ax80/Band3	Temp./Humi.	:24.6/57
Frequency	:5610 MHz	Antenna Pol.	:VERTICAL
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:34		



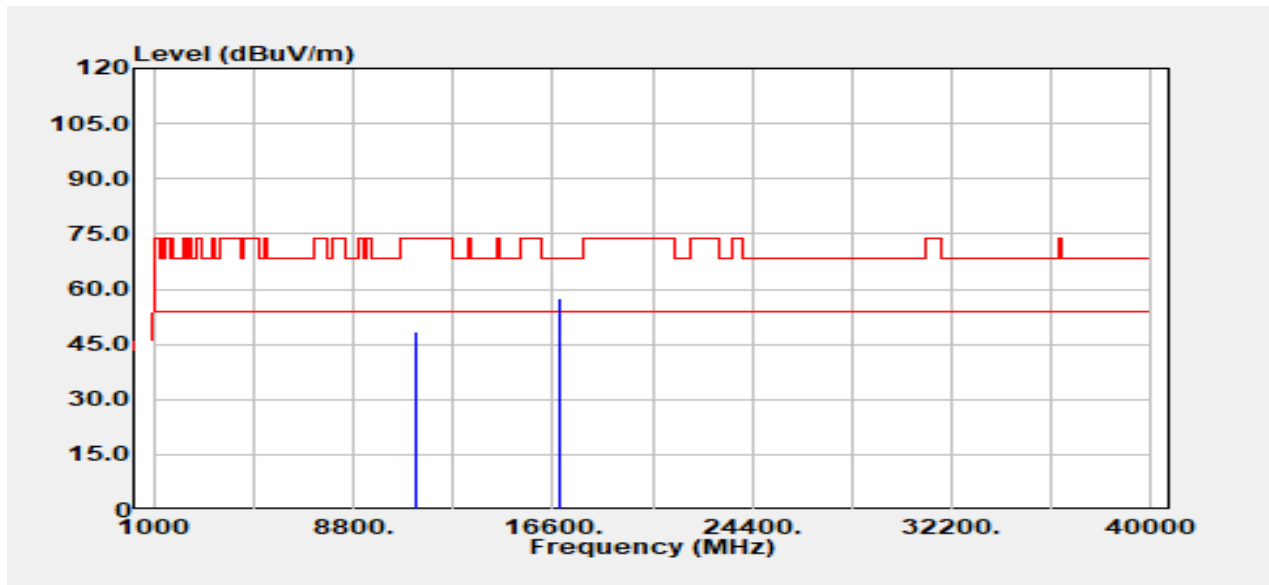
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11220.00	Peak	33.89	13.87	47.76	74.00	-26.24
11220.00	Average	26.90	13.87	40.77	54.00	-13.23
16830.00	Peak	32.54	24.12	56.65	68.20	-11.55

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Project No :TM-2309000207P
Operation Band :802.11ax80/Band3
Frequency :5610 MHz
Operation Mode :TX
EUT Pol :E2
Setting :34

Test Date :2024-06-21
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



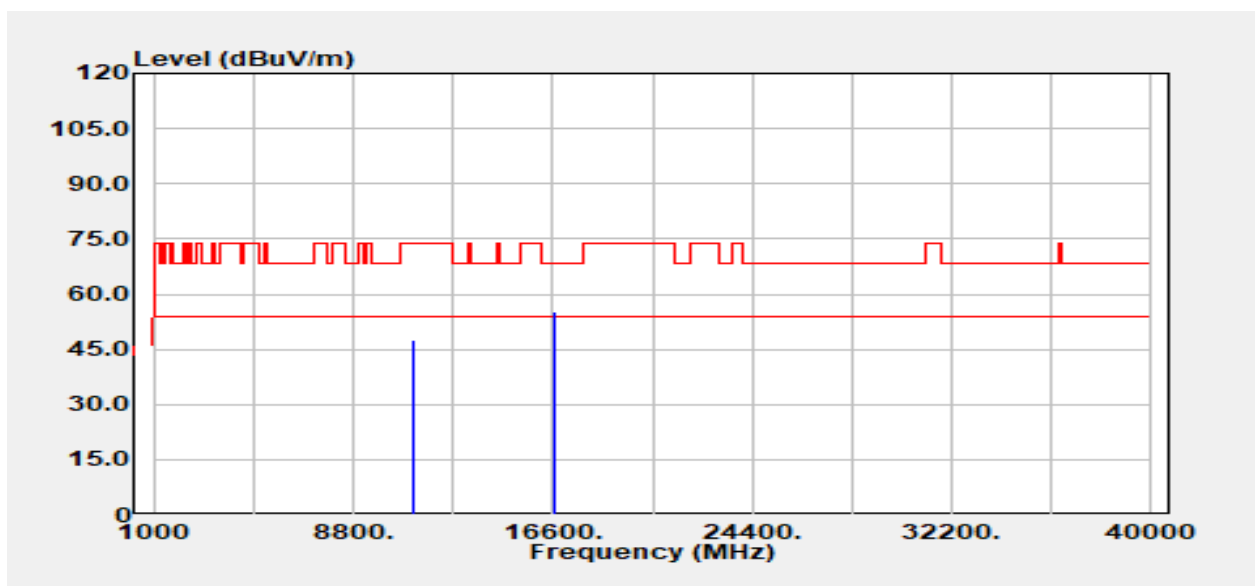
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11220.00	Peak	34.69	13.87	48.57	74.00	-25.43
11220.00	Average	25.66	13.87	39.53	54.00	-14.47
16830.00	Peak	33.47	24.12	57.58	68.20	-10.62

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Project No :TM-2309000207P
Operation Band :802.11ax160/Band3
Frequency :5570 MHz
Operation Mode :TX
EUT Pol :E2
Setting :30

Test Date :2024-06-21
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Tony Chao
Test Chamber : 966A



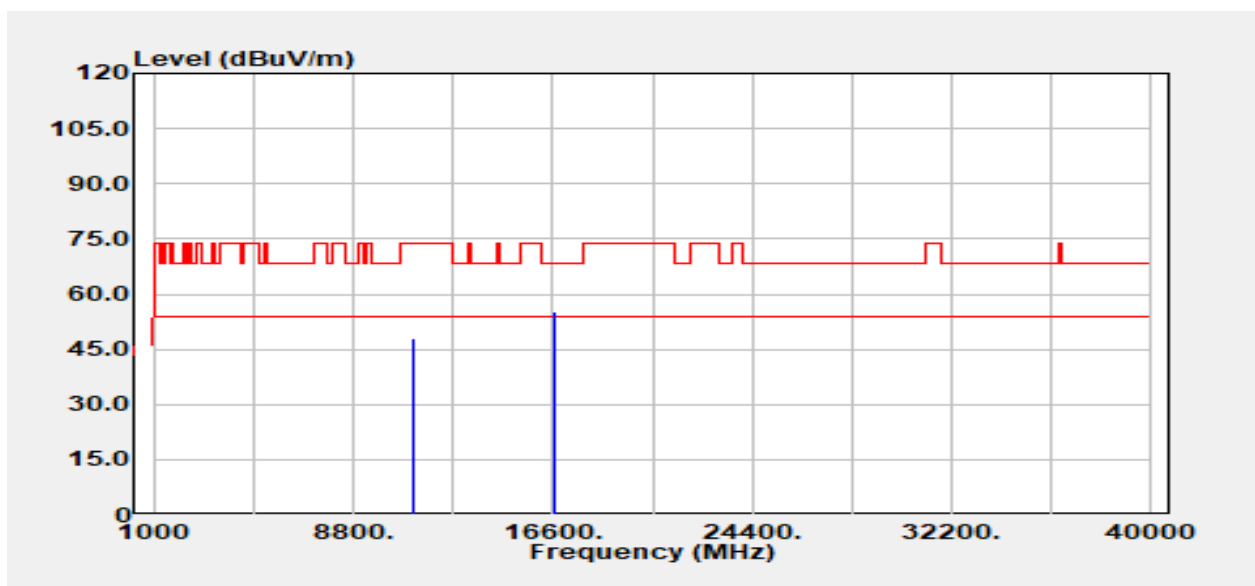
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11140.00	Peak	34.08	13.64	47.72	74.00	-26.28
11140.00	Average	26.25	13.64	39.89	54.00	-14.11
16710.00	Peak	32.97	22.35	55.31	68.20	-12.89

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Project No :TM-2309000207P
Operation Band :802.11ax160/Band3
Frequency :5570 MHz
Operation Mode :TX
EUT Pol :E2
Setting :30

Test Date :2024-06-21
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



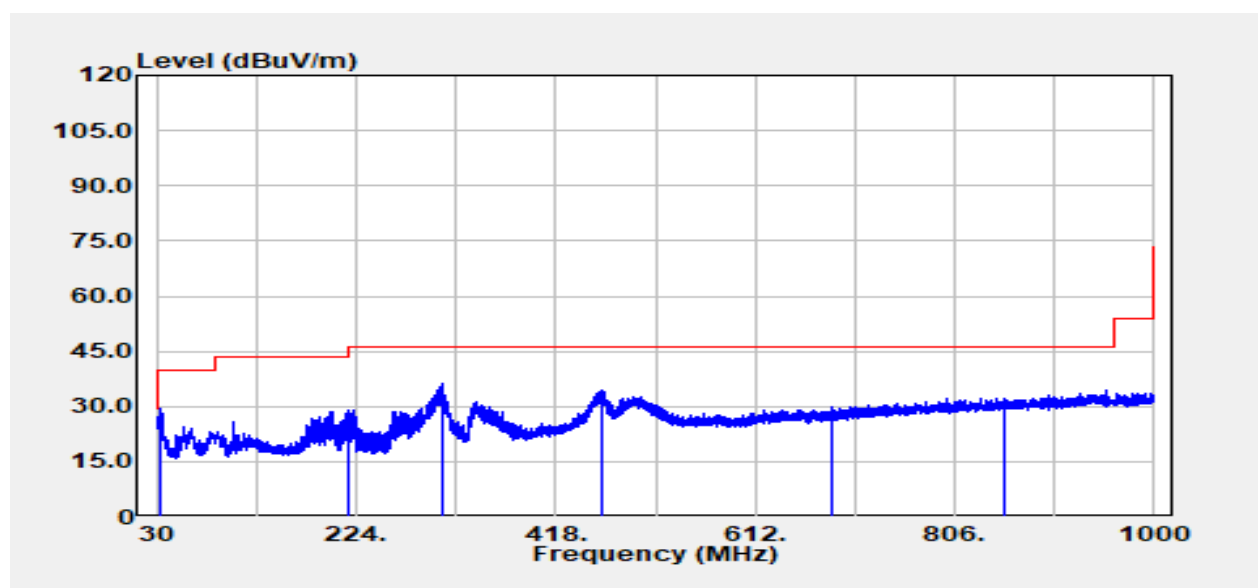
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11140.00	Peak	34.17	13.64	47.81	74.00	-26.19
11140.00	Average	26.58	13.64	40.21	54.00	-13.79
16710.00	Peak	32.97	22.35	55.31	68.20	-12.89

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Project No :TM-2309000207P
Operation Band :802.11ac80/Band4
Frequency :5775 MHz
Operation Mode :TX
EUT Pol :E2
Setting :

Test Date :2024-06-25
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Tony Chao
Test Chamber : 966A



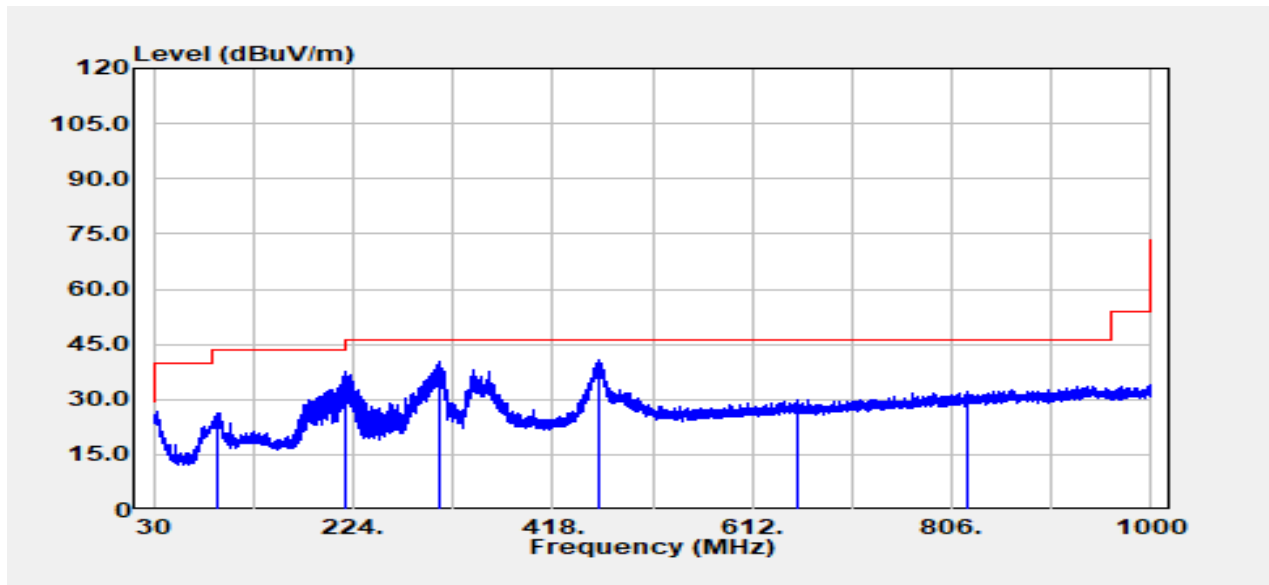
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
34.73	Peak	34.85	-5.48	29.36	40.00	-10.64
217.09	Peak	40.94	-11.76	29.18	46.00	-16.82
308.75	Peak	44.71	-8.37	36.34	46.00	-9.66
462.14	Peak	38.54	-4.08	34.46	46.00	-11.54
686.69	Peak	30.40	-0.36	30.04	46.00	-15.96
853.29	Peak	30.00	2.33	32.33	46.00	-13.67

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Project No :TM-2309000207P
Operation Band :802.11ac80/Band4
Frequency :5775 MHz
Operation Mode :TX
EUT Pol :E2
Setting :

Test Date :2024-06-25
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



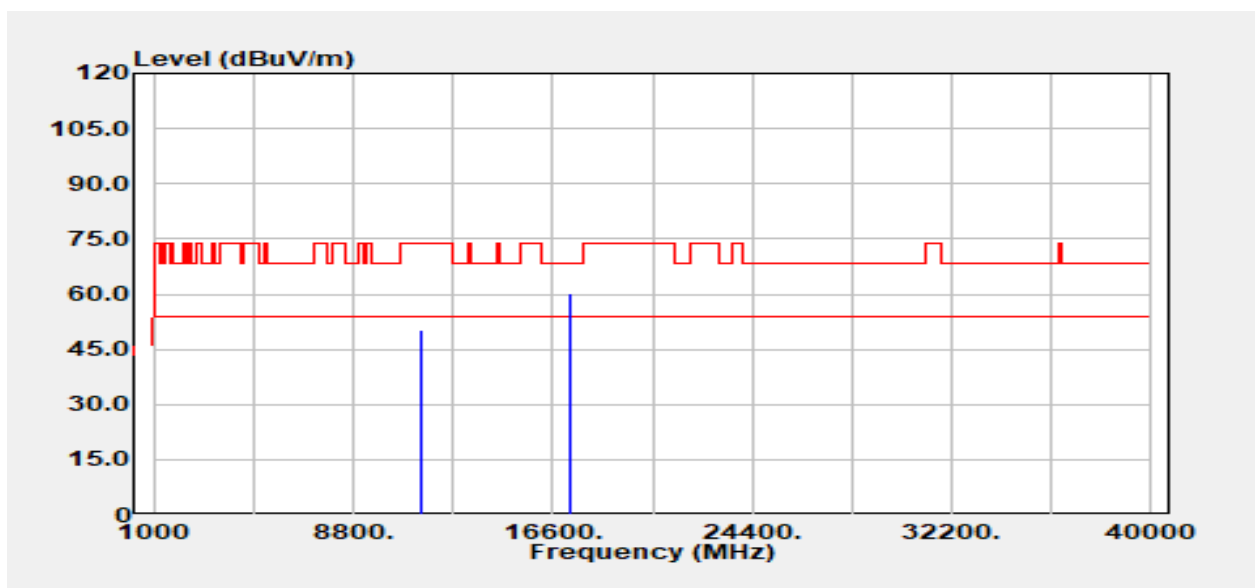
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
92.81	Peak	40.82	-14.51	26.31	43.50	-17.19
217.21	Peak	49.26	-11.76	37.50	46.00	-8.50
306.69	Peak	48.63	-8.42	40.21	46.00	-5.79
462.62	Peak	44.92	-4.07	40.85	46.00	-5.15
654.80	Peak	30.57	-0.65	29.92	46.00	-16.08
819.94	Peak	30.41	1.89	32.29	46.00	-13.71

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Project No :TM-2309000207P
Operation Band :802.11n20/Band4
Frequency :5745 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



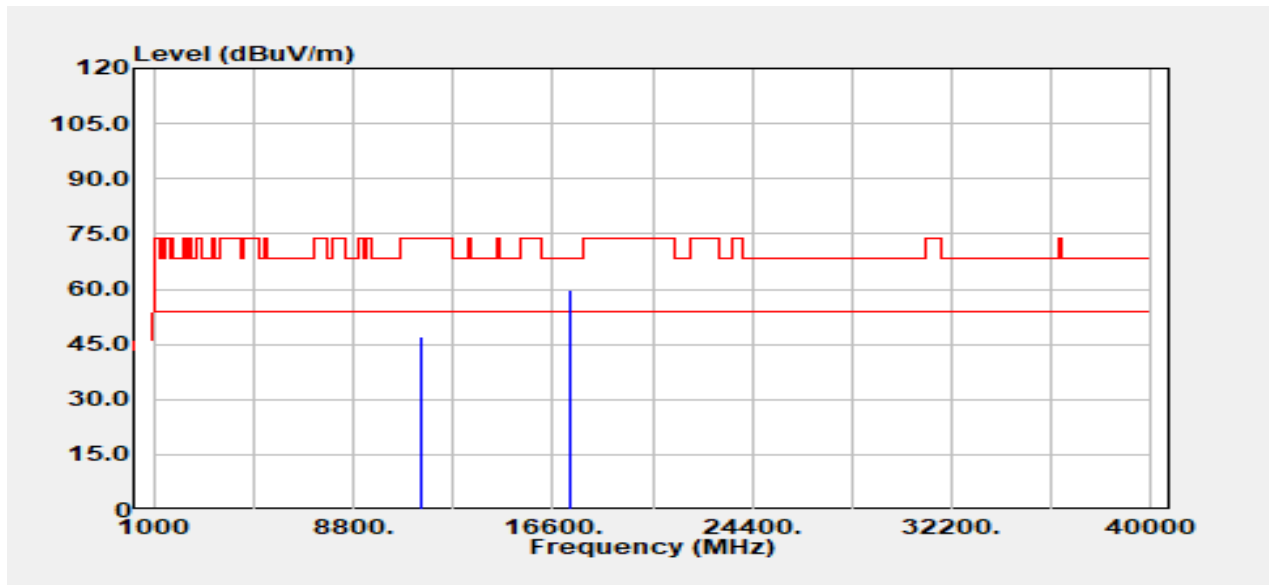
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11490.00	Peak	36.40	13.67	50.07	74.00	-23.93
11490.00	Average	29.59	13.67	43.26	54.00	-10.74
17235.00	Peak	32.37	28.05	60.42	68.20	-7.78

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Project No :TM-2309000207P
Operation Band :802.11n20/Band4
Frequency :5745 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



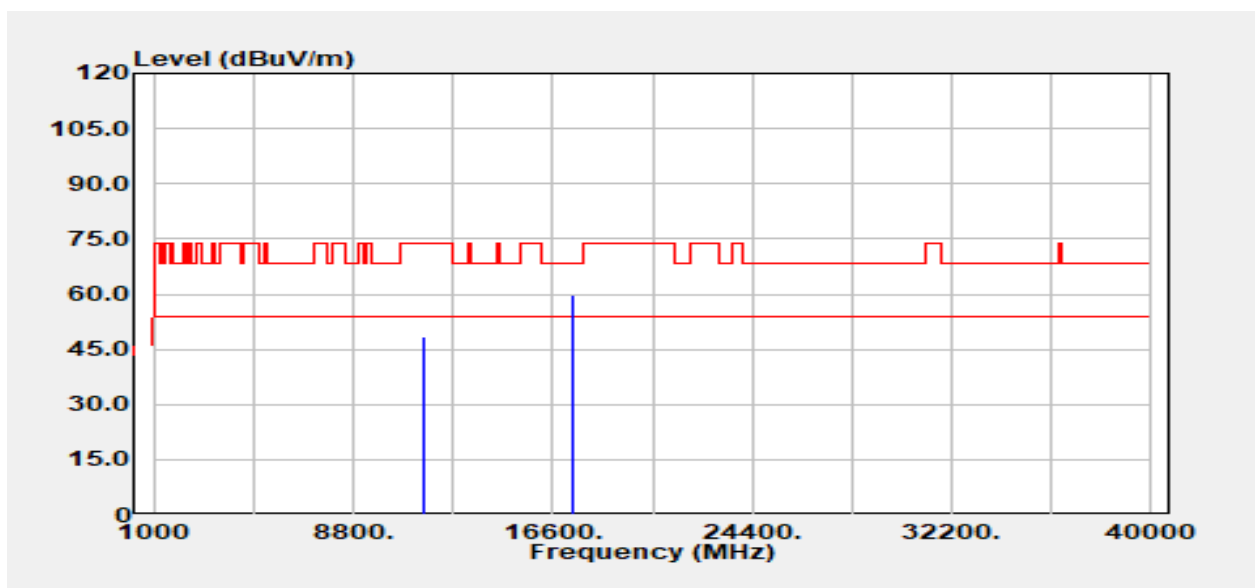
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11490.00	Peak	33.57	13.67	47.24	74.00	-26.76
11490.00	Average	27.17	13.67	40.84	54.00	-13.16
17235.00	Peak	31.87	28.05	59.92	68.20	-8.28

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Project No :TM-2309000207P
Operation Band :802.11n20/Band4
Frequency :5785 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



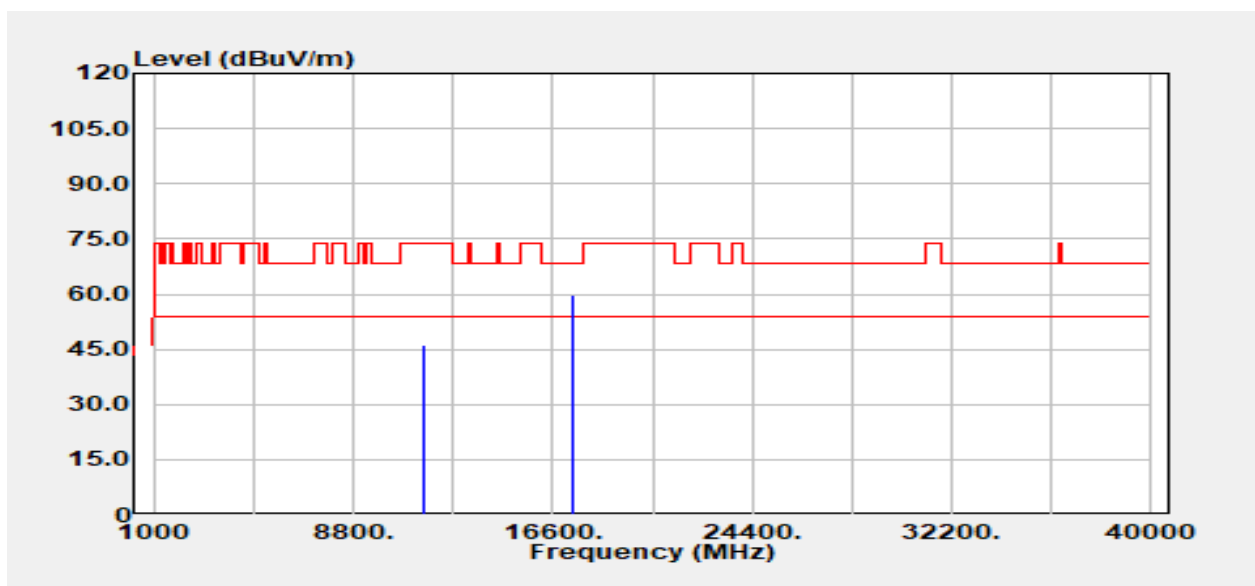
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11570.00	Peak	34.35	13.89	48.25	74.00	-25.75
11570.00	Average	28.35	13.89	42.25	54.00	-11.75
17355.00	Peak	32.53	27.33	59.87	68.20	-8.33

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Project No :TM-2309000207P
Operation Band :802.11n20/Band4
Frequency :5785 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



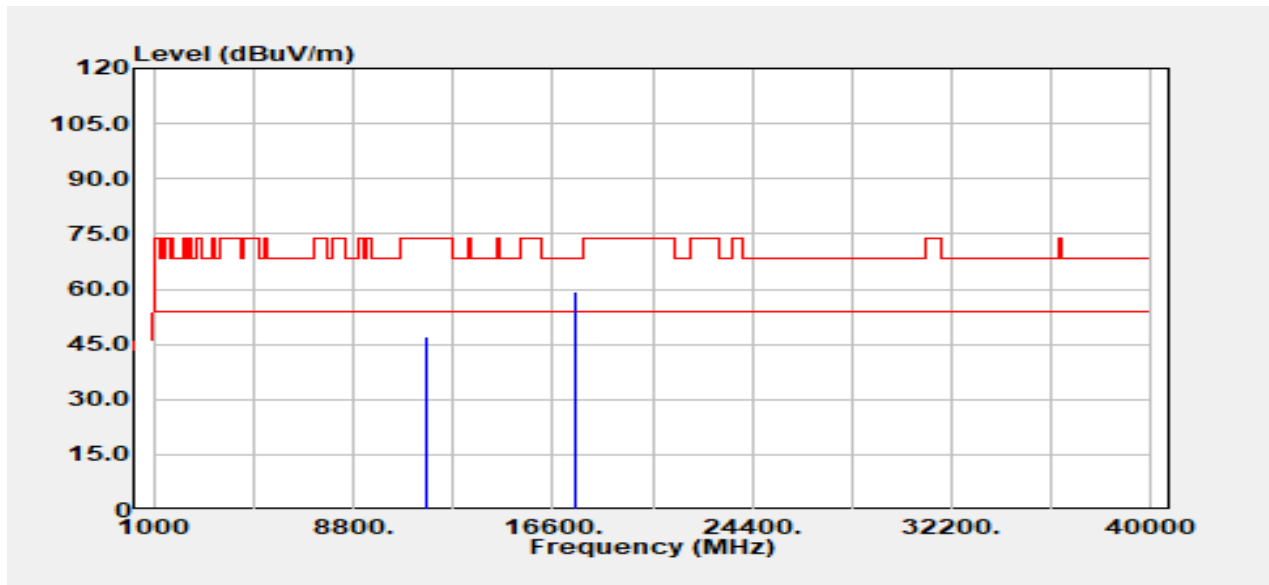
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11570.00	Peak	32.51	13.89	46.41	74.00	-27.59
11570.00	Average	26.99	13.89	40.88	54.00	-13.12
17355.00	Peak	32.22	27.33	59.55	68.20	-8.65

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Project No :TM-2309000207P
Operation Band :802.11n20/Band4
Frequency :5825 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



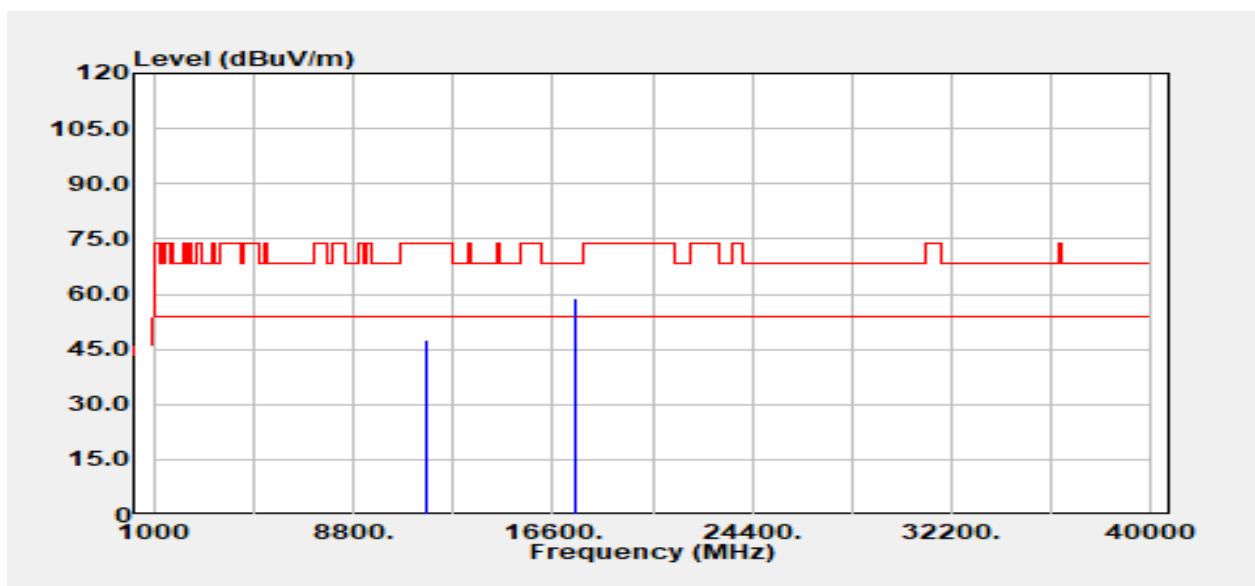
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11650.00	Peak	32.93	14.03	46.96	74.00	-27.04
11650.00	Average	25.49	14.03	39.52	54.00	-14.48
17475.00	Peak	32.18	27.18	59.36	68.20	-8.84

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Project No :TM-2309000207P
Operation Band :802.11n20/Band4
Frequency :5825 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



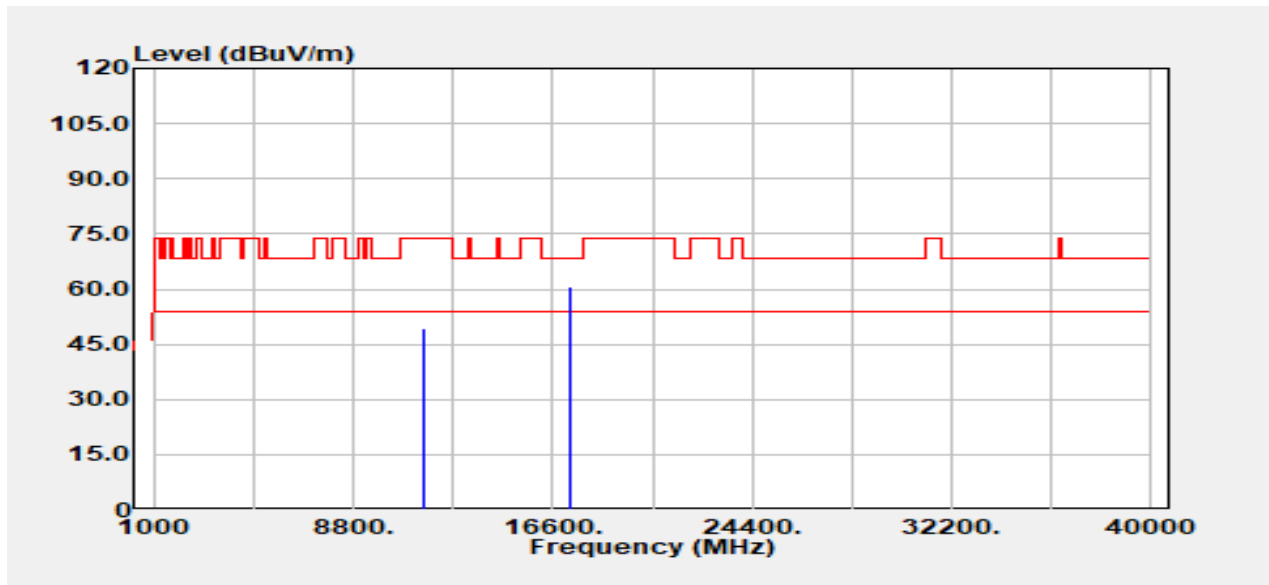
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11650.00	Peak	33.31	14.03	47.33	74.00	-26.67
11650.00	Average	25.56	14.03	39.58	54.00	-14.42
17475.00	Peak	31.79	27.18	58.97	68.20	-9.23

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Project No :TM-2309000207P
Operation Band :802.11n40/Band4
Frequency :5755 MHz
Operation Mode :TX
EUT Pol :E2
Setting :42

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A



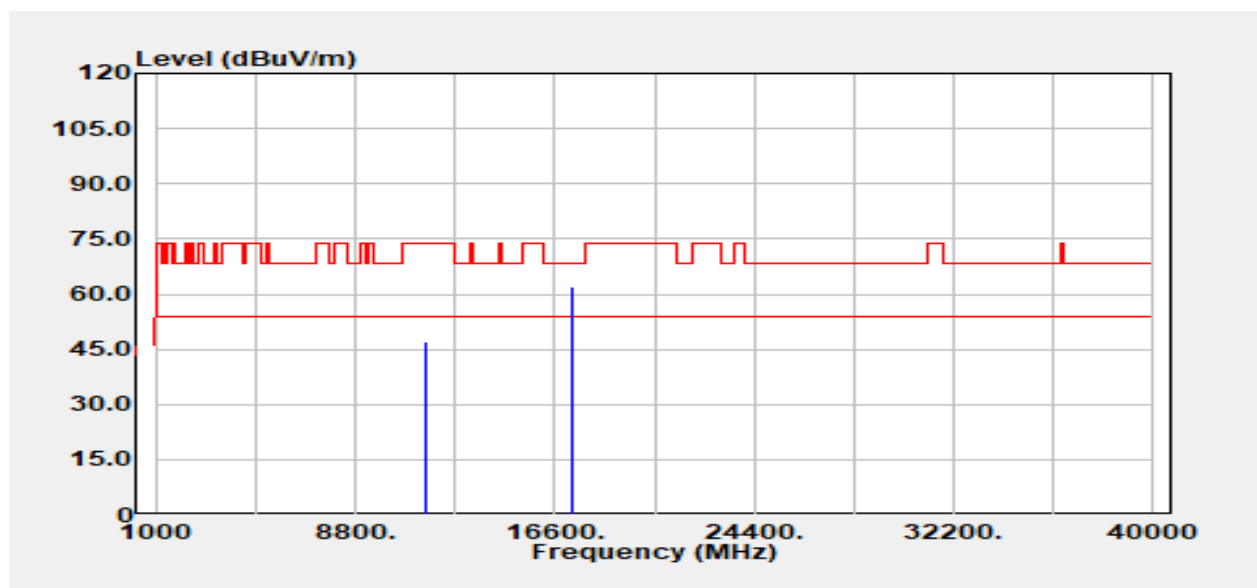
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11510.00	Peak	35.38	13.77	49.15	74.00	-24.85
11510.00	Average	29.33	13.77	43.10	54.00	-10.90
17265.00	Peak	32.79	27.89	60.68	68.20	-7.52

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Project No :TM-2309000207P
Operation Band :802.11n40/Band4
Frequency :5755 MHz
Operation Mode :TX
EUT Pol :E2
Setting :42

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Ray Li
Test Chamber : 966A



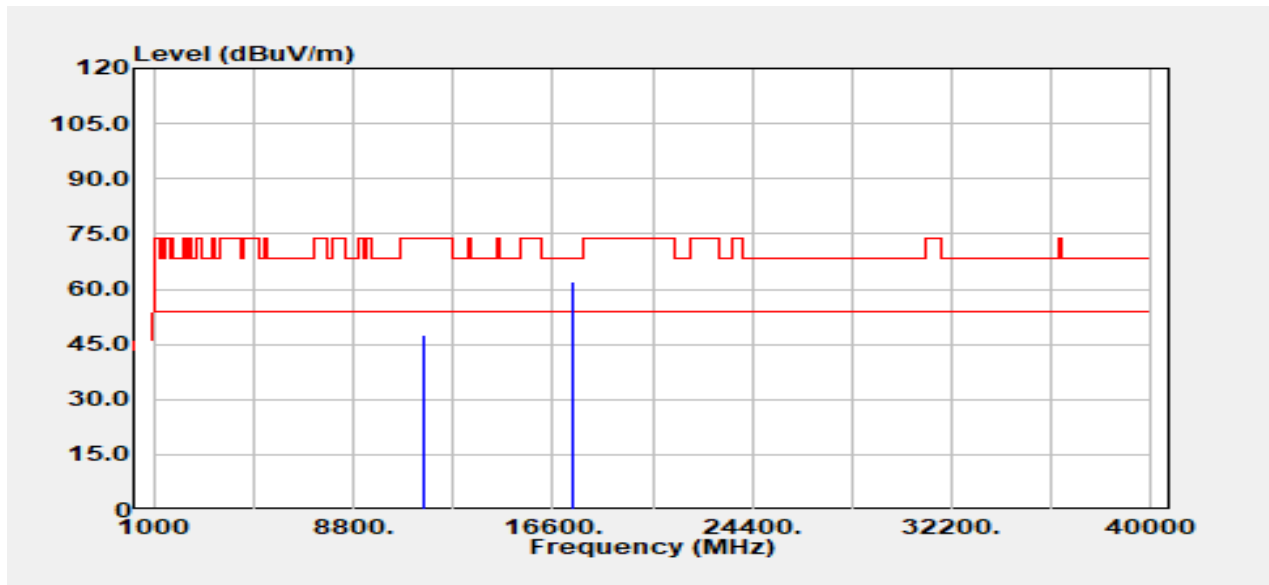
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11510.00	Peak	33.11	13.77	46.88	74.00	-27.12
11510.00	Average	26.79	13.77	40.56	54.00	-13.44
17265.00	Peak	33.98	27.89	61.86	68.20	-6.34

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Project No :TM-2309000207P
Operation Band :802.11n40/Band4
Frequency :5795 MHz
Operation Mode :TX
EUT Pol :E2
Setting :42

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A



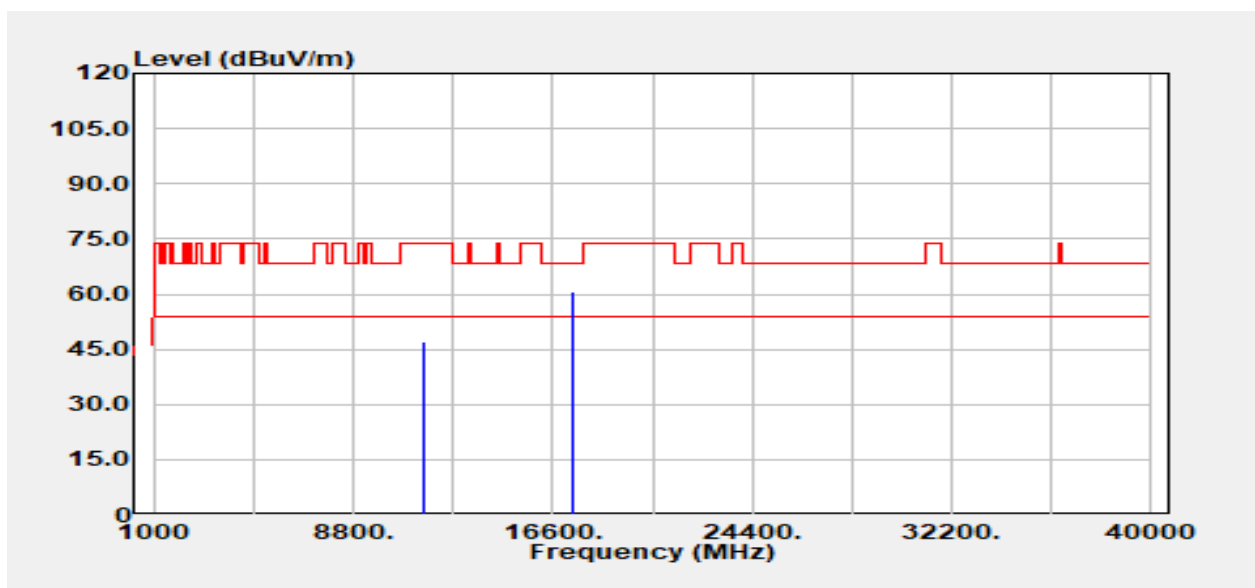
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11590.00	Peak	33.82	13.82	47.64	74.00	-26.36
11590.00	Average	26.46	13.82	40.27	54.00	-13.73
17385.00	Peak	34.76	27.26	62.02	68.20	-6.18

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Project No :TM-2309000207P
Operation Band :802.11n40/Band4
Frequency :5795 MHz
Operation Mode :TX
EUT Pol :E2
Setting :42

Test Date :2024-06-17
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Ray Li
Test Chamber : 966A



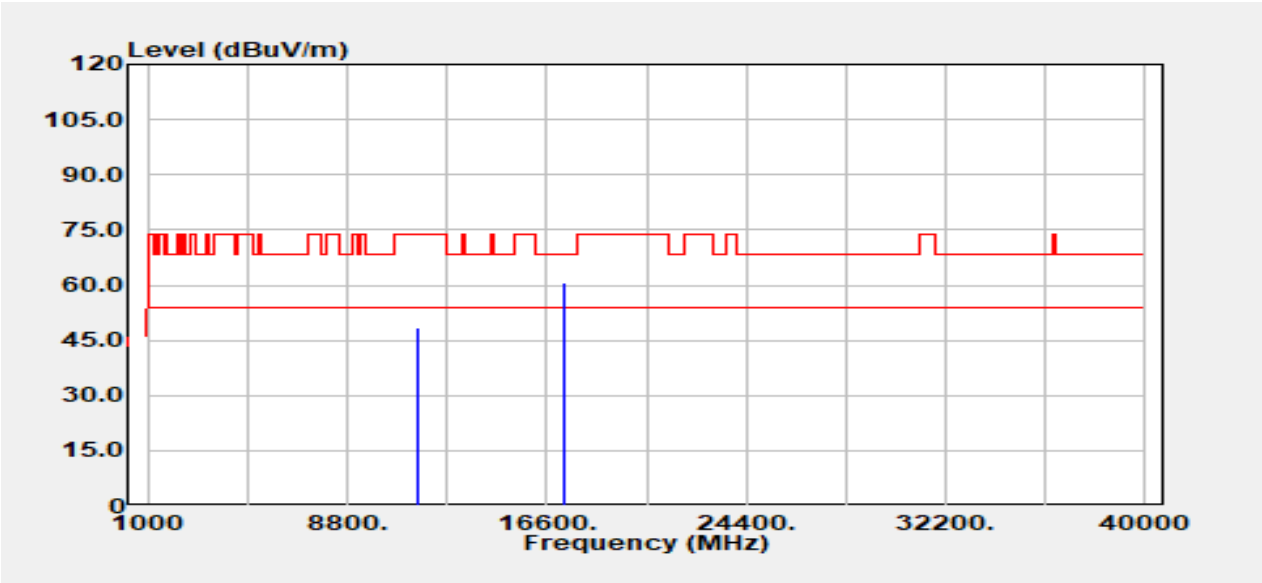
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11590.00	Peak	33.06	13.82	46.88	74.00	-27.12
11590.00	Average	25.07	13.82	38.88	54.00	-15.12
17385.00	Peak	33.34	27.26	60.61	68.20	-7.59



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Project No	:TM-2309000207P	Test Date	:2024-06-18
Operation Band	:802.11ac80/Band4	Temp./Humi.	:24.6/57
Frequency	:5775 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:42		



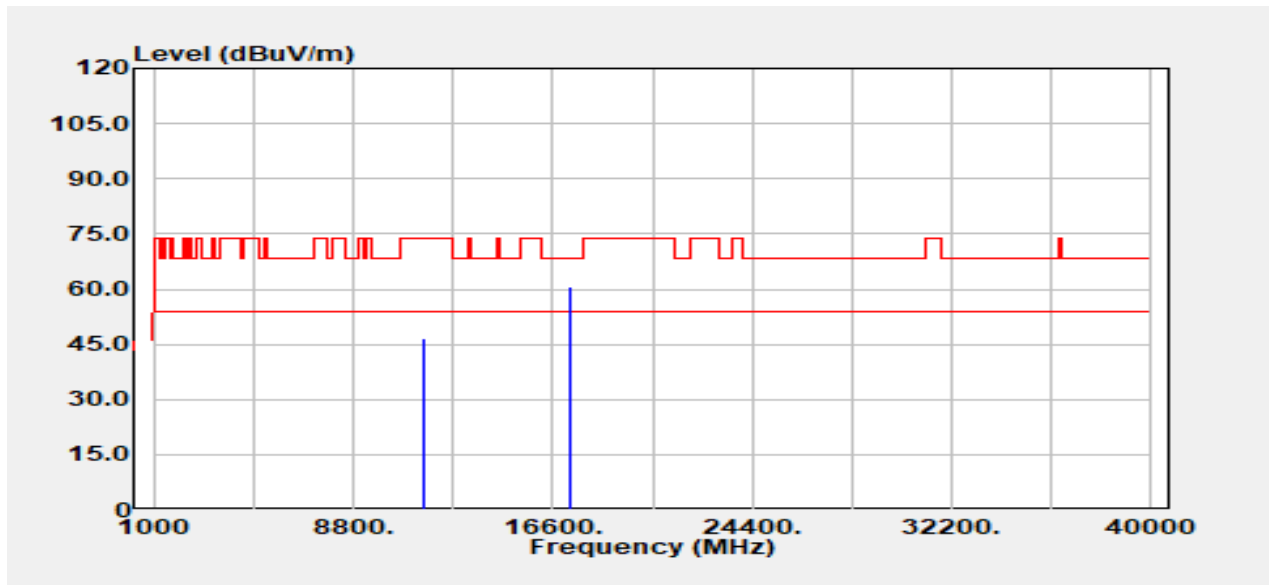
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11510.00	Peak	34.59	13.77	48.36	74.00	-25.64
11510.00	Average	25.68	13.77	39.45	54.00	-14.55
17265.00	Peak	32.59	27.89	60.48	68.20	-7.72

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Project No :TM-2309000207P
Operation Band :802.11ac80/Band4
Frequency :5775 MHz
Operation Mode :TX
EUT Pol :E2
Setting :42

Test Date :2024-06-18
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



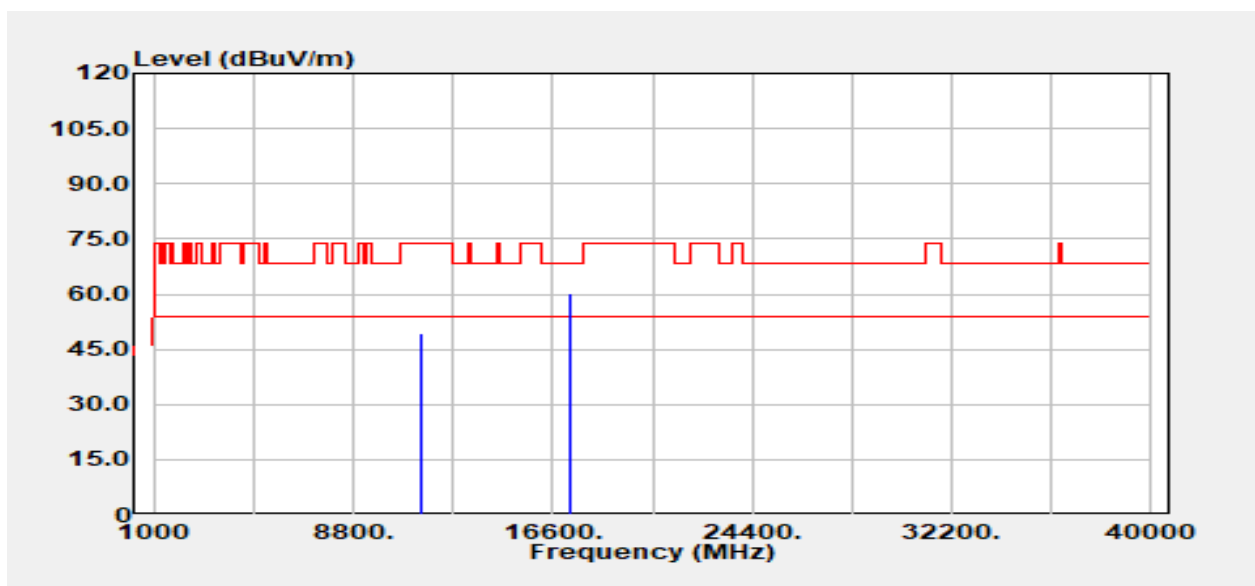
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11510.00	Peak	32.71	13.77	46.48	74.00	-27.52
11510.00	Average	25.82	13.77	39.59	54.00	-14.41
17265.00	Peak	32.66	27.89	60.55	68.20	-7.65

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Project No :TM-2309000207P
Operation Band :802.11ax20/Band4
Frequency :5745 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-19
Temp./Humi. :24.5/58
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



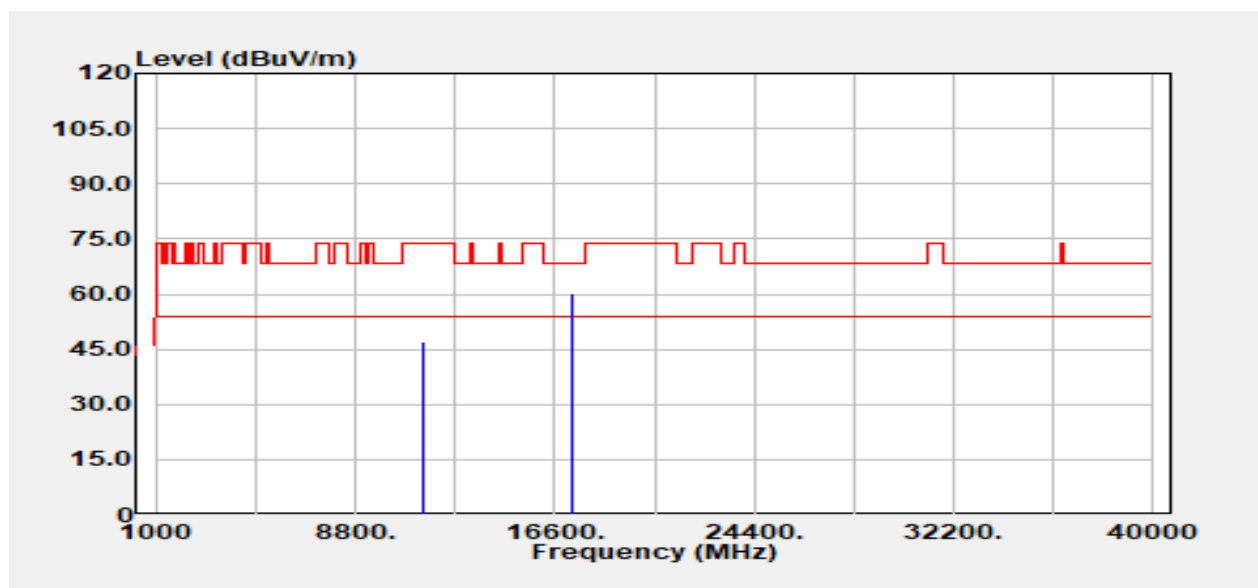
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11490.00	Peak	35.84	13.67	49.51	74.00	-24.49
11490.00	Average	30.35	13.67	44.02	54.00	-9.98
17235.00	Peak	32.19	28.05	60.24	68.20	-7.96

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Project No :TM-2309000207P
Operation Band :802.11ax20/Band4
Frequency :5745 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-19
Temp./Humi. :24.5/58
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



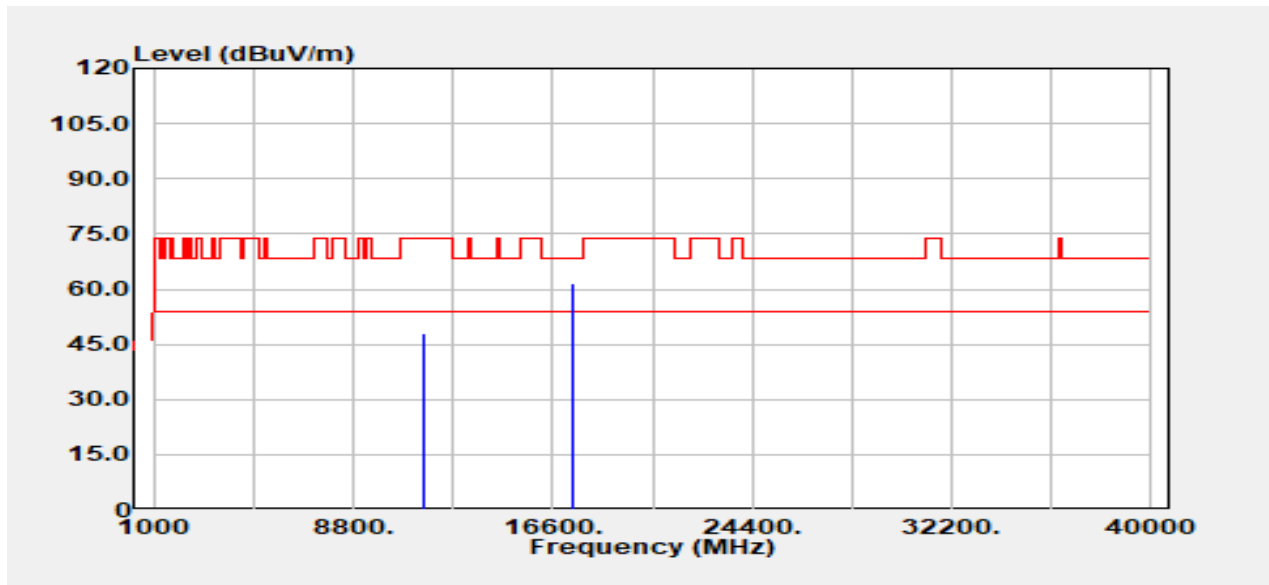
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11490.00	Peak	33.52	13.67	47.19	74.00	-26.81
11490.00	Average	27.56	13.67	41.23	54.00	-12.77
17235.00	Peak	32.02	28.05	60.07	68.20	-8.13

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Project No :TM-2309000207P
Operation Band :802.11ax20/Band4
Frequency :5785 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-19
Temp./Humi. :24.5/58
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



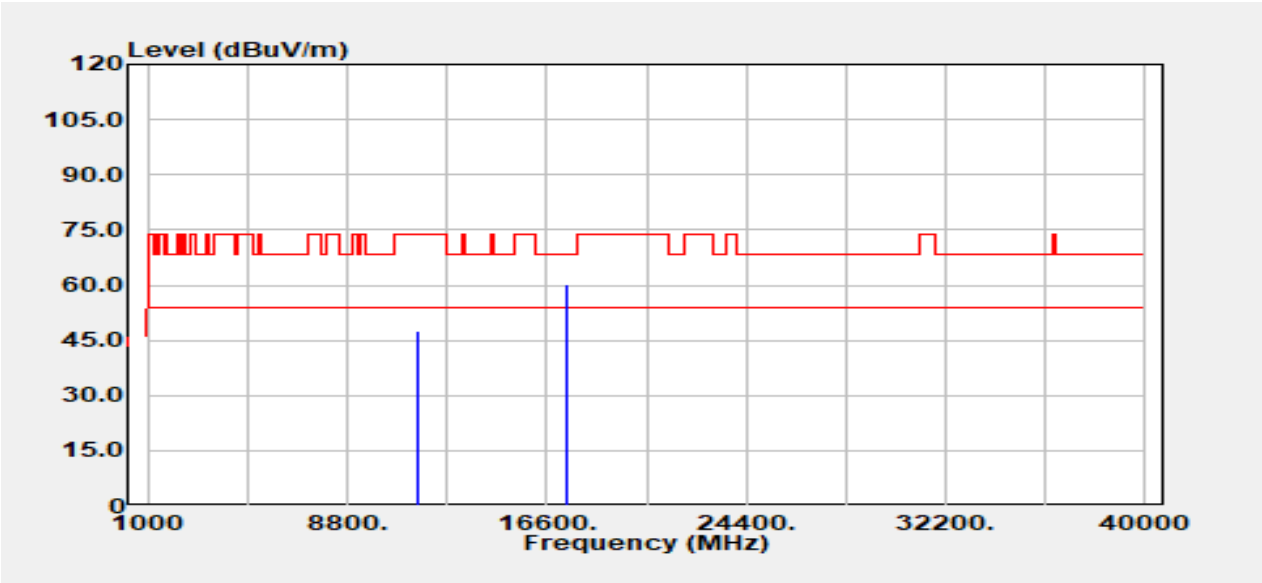
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11570.00	Peak	33.98	13.89	47.87	74.00	-26.13
11570.00	Average	26.15	13.89	40.04	54.00	-13.96
17355.00	Peak	34.20	27.33	61.54	68.20	-6.66



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Project No	:TM-2309000207P	Test Date	:2024-06-19
Operation Band	:802.11ax20/Band4	Temp./Humi.	:24.5/58
Frequency	:5785 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:48		



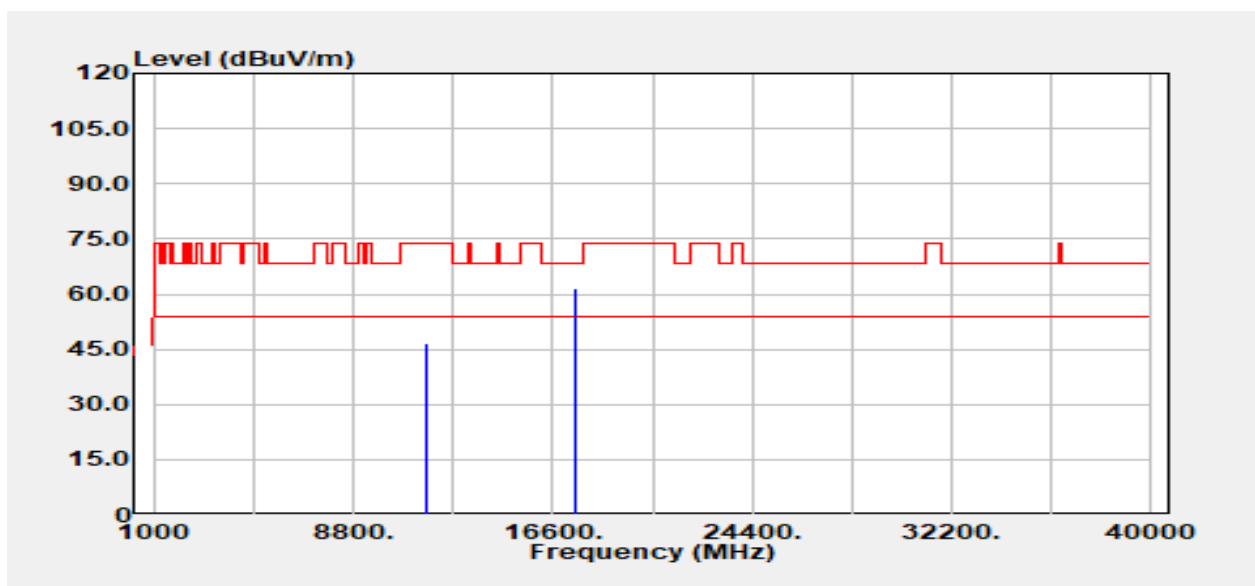
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11570.00	Peak	33.53	13.89	47.42	74.00	-26.58
11570.00	Average	26.04	13.89	39.93	54.00	-14.07
17355.00	Peak	32.67	27.33	60.00	68.20	-8.20

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Project No :TM-2309000207P
Operation Band :802.11ax20/Band4
Frequency :5825 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-19
Temp./Humi. :24.5/58
Antenna Pol. :Vertical
Engineer :Tony Chao
Test Chamber : 966A



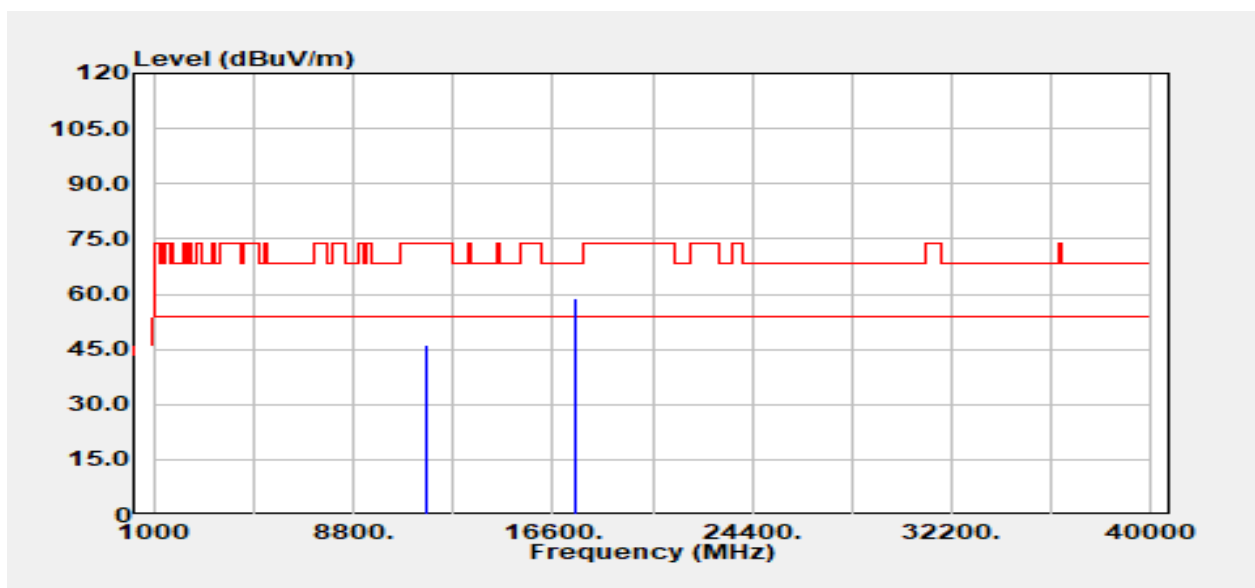
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11650.00	Peak	32.45	14.03	46.48	74.00	-27.52
11650.00	Average	27.44	14.03	41.46	54.00	-12.54
17475.00	Peak	34.43	27.18	61.61	68.20	-6.59

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Project No :TM-2309000207P
Operation Band :802.11ax20/Band4
Frequency :5825 MHz
Operation Mode :TX
EUT Pol :E2
Setting :48

Test Date :2024-06-19
Temp./Humi. :24.5/58
Antenna Pol. :Horizontal
Engineer :Tony Chao
Test Chamber : 966A



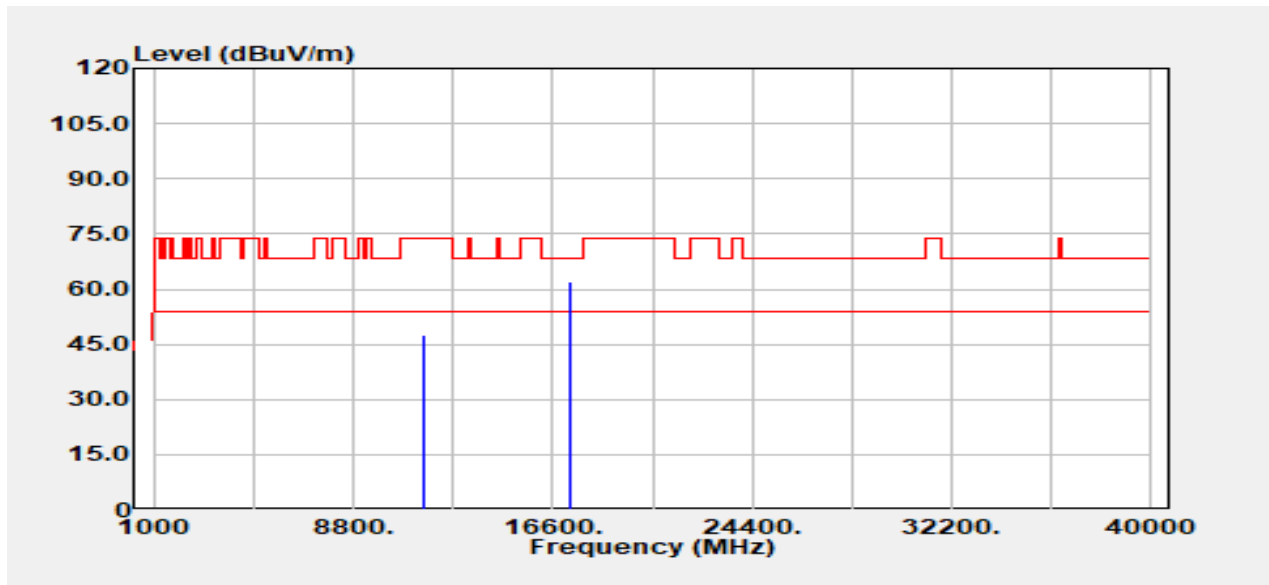
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11650.00	Peak	32.36	14.03	46.38	74.00	-27.62
11650.00	Average	26.82	14.03	40.84	54.00	-13.16
17475.00	Peak	31.83	27.18	59.01	68.20	-9.19

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Project No :TM-2309000207P
Operation Band :802.11ax40/Band4
Frequency :5755 MHz
Operation Mode :TX
EUT Pol :E2
Setting :46

Test Date :2024-06-20
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Tony Chao
Test Chamber : 966A



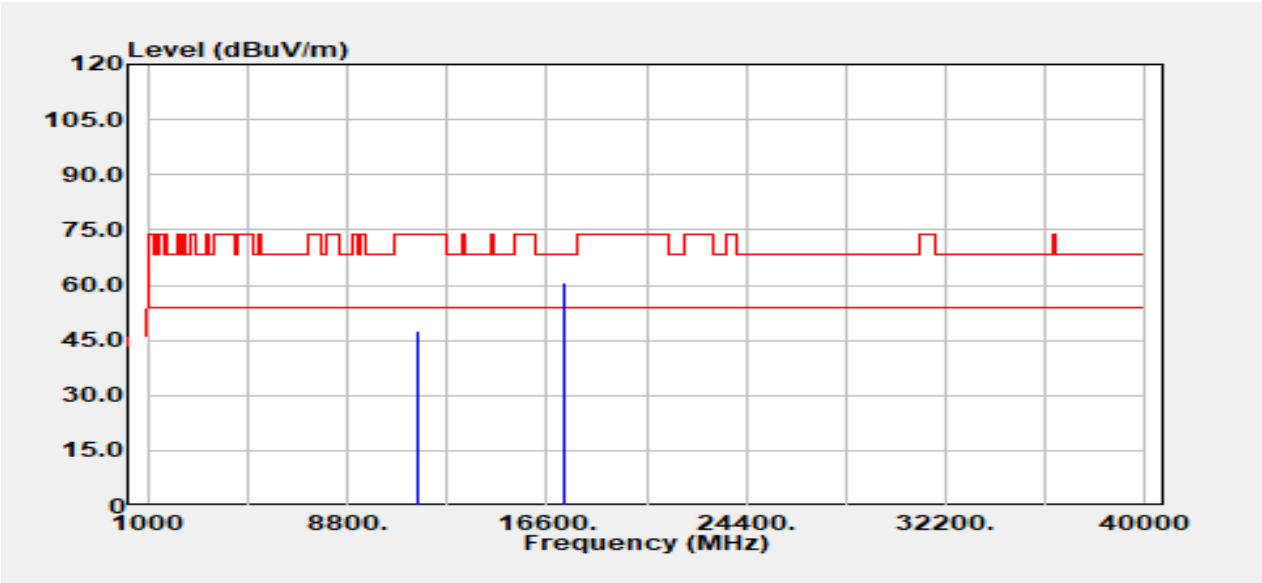
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11510.00	Peak	33.96	13.77	47.73	74.00	-26.27
11510.00	Average	26.19	13.77	39.96	54.00	-14.04
17265.00	Peak	34.02	27.89	61.91	68.20	-6.29



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Project No	:TM-2309000207P	Test Date	:2024-06-20
Operation Band	:802.11ax40/Band4	Temp./Humi.	:24.6/57
Frequency	:5755 MHz	Antenna Pol.	:HORIZONTAL
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:E2	Test Chamber	: 966A
Setting	:46		



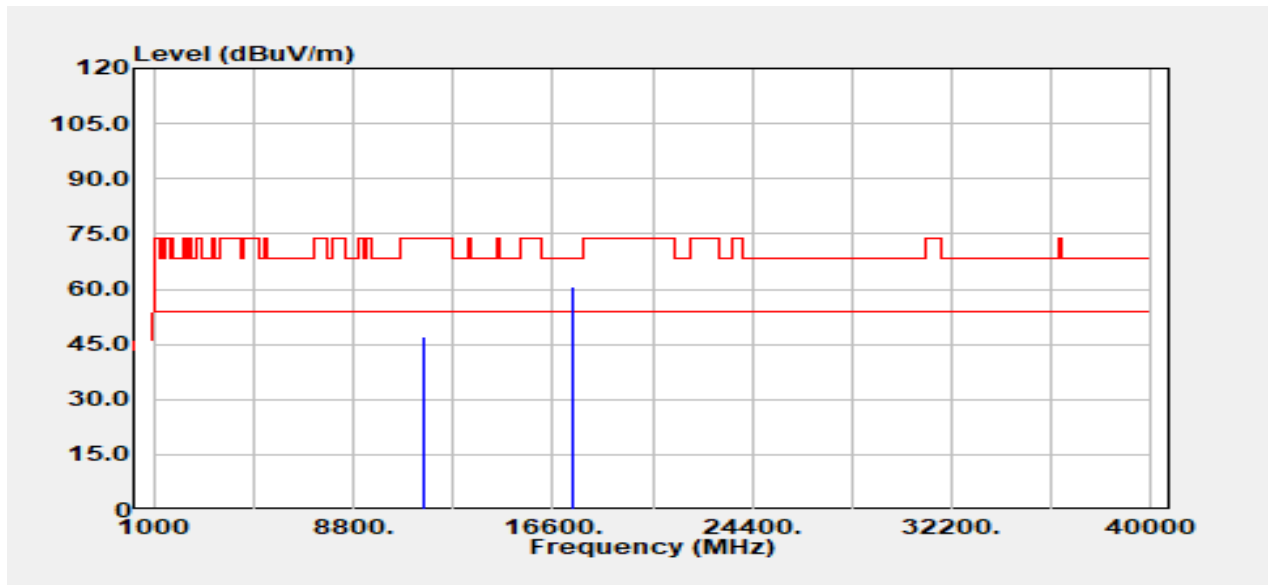
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11510.00	Peak	33.68	13.77	47.45	74.00	-26.55
11510.00	Average	25.81	13.77	39.58	54.00	-14.42
17265.00	Peak	32.81	27.89	60.69	68.20	-7.51

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Project No :TM-2309000207P
Operation Band :802.11ax40/Band4
Frequency :5795 MHz
Operation Mode :TX
EUT Pol :E2
Setting :47

Test Date :2024-06-20
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Tony Chao
Test Chamber : 966A



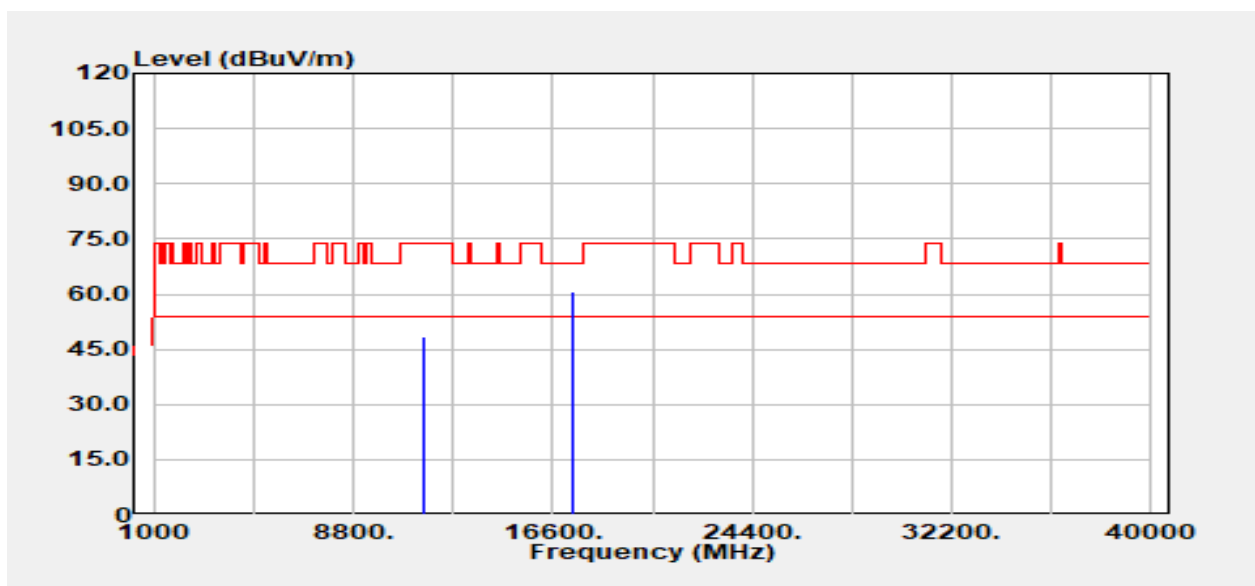
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11590.00	Peak	33.06	13.82	46.87	74.00	-27.13
11590.00	Average	26.74	13.82	40.56	54.00	-13.44
17385.00	Peak	33.63	27.26	60.89	68.20	-7.31

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Project No :TM-2309000207P
Operation Band :802.11ax40/Band4
Frequency :5795 MHz
Operation Mode :TX
EUT Pol :E2
Setting :47

Test Date :2024-06-20
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



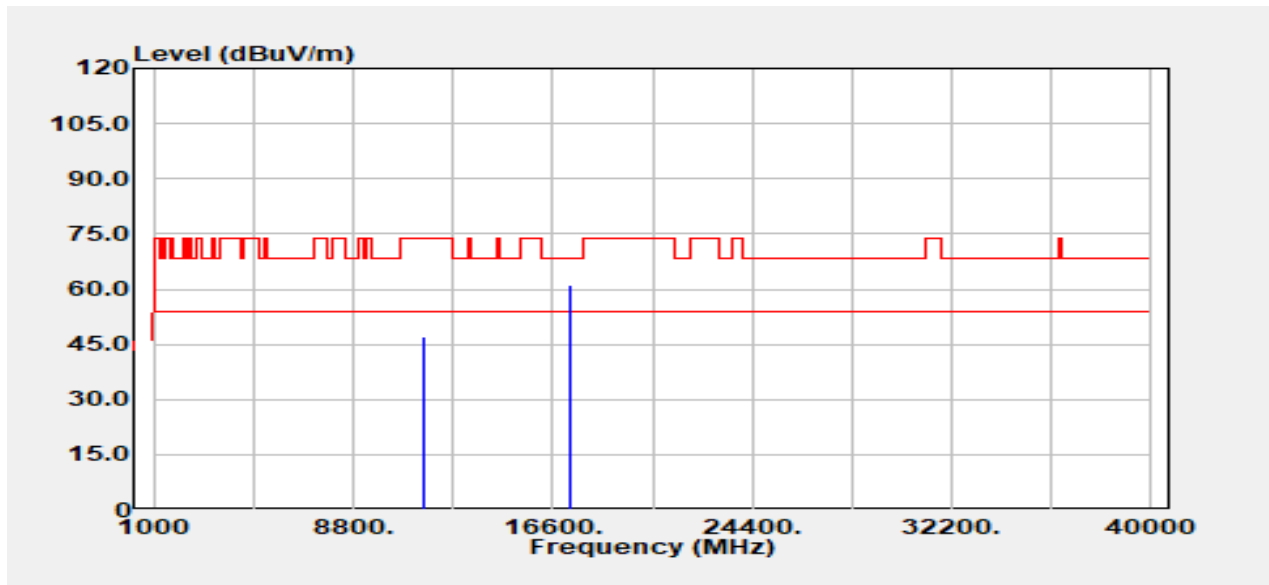
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11590.00	Peak	34.46	13.82	48.28	74.00	-25.72
11590.00	Average	25.80	13.82	39.61	54.00	-14.39
17385.00	Peak	33.26	27.26	60.52	68.20	-7.68

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Project No :TM-2309000207P
Operation Band :802.11ax80/Band4
Frequency :5775 MHz
Operation Mode :TX
EUT Pol :E2
Setting :42

Test Date :2024-06-21
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Tony Chao
Test Chamber : 966A



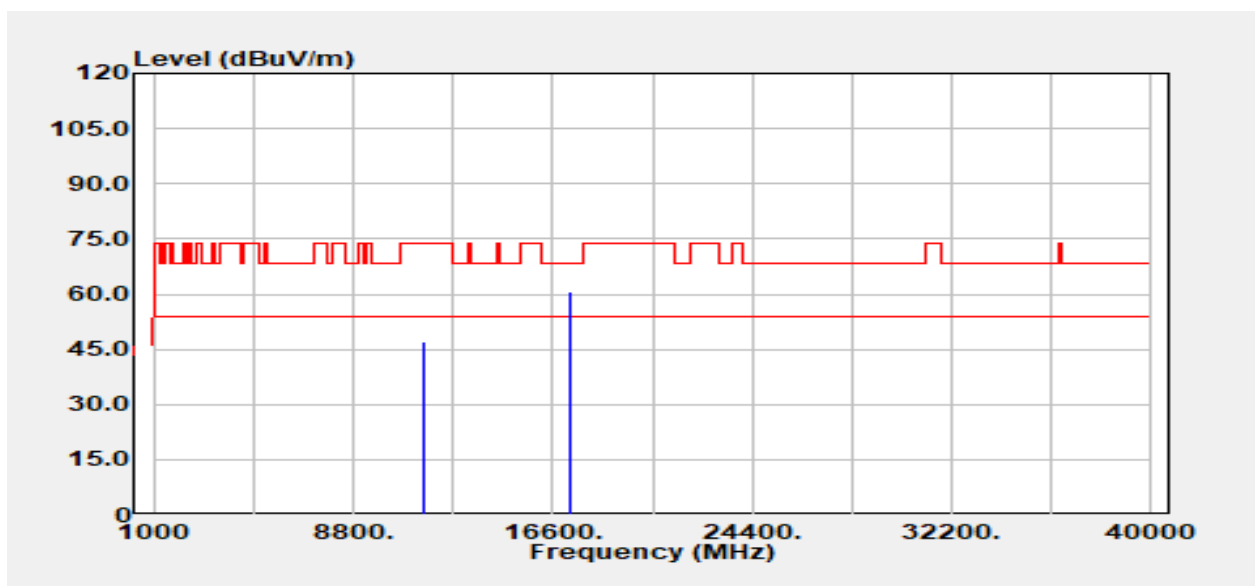
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11550.00	Peak	33.16	13.97	47.13	74.00	-26.87
11550.00	Average	26.84	13.97	40.81	54.00	-13.19
17325.00	Peak	33.82	27.42	61.24	68.20	-6.96

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Project No :TM-2309000207P
Operation Band :802.11ax80/Band4
Frequency :5775 MHz
Operation Mode :TX
EUT Pol :E2
Setting :42

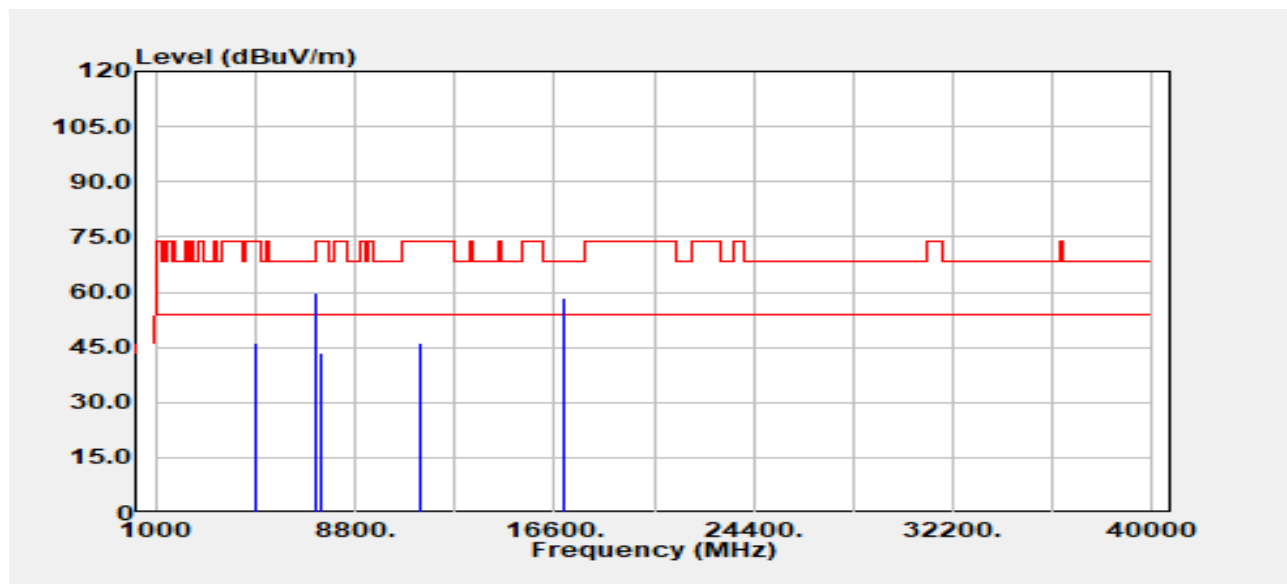
Test Date :2024-06-21
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
11550.00	Peak	33.04	13.97	47.01	74.00	-26.99
11550.00	Average	25.47	13.97	39.44	54.00	-14.56
17325.00	Peak	33.13	27.42	60.55	68.20	-7.65

Co-Location

Project No	:TM-2309000207P	Test Date	:2024-06-26
Operation Band	:802.11ax40/Band3_802.11g_ BLE	Temp./Humi.	:24.6/57
Frequency	:5670_2437_2476 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:E2	Test Chamber	: 966A
Setting	:20_20_31		

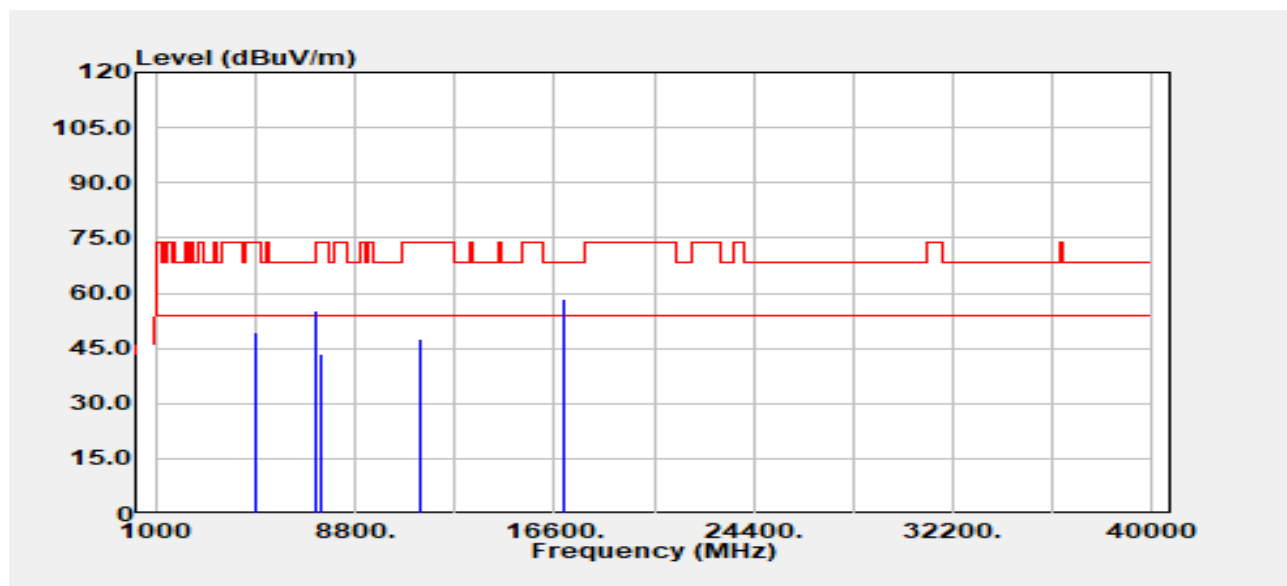


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
4874.00	Peak	43.83	2.49	46.32	74.00	-27.68
4874.00	Average	39.42	2.49	41.92	54.00	-12.08
4952.00	Peak	38.06	3.16	41.22	74.00	-32.78
4952.00	Average	33.06	3.16	36.22	54.00	-17.78
7311.00	Peak	50.66	8.96	59.62	74.00	-14.38
7311.00	Average	44.16	8.96	53.12	54.00	-0.88
7428.00	Peak	34.70	8.96	43.65	74.00	-30.35
7428.00	Average	27.01	8.96	35.97	54.00	-18.03
11340.00	Peak	32.49	13.87	46.36	74.00	-27.64
11340.00	Average	26.29	13.87	40.16	54.00	-13.84
17010.00	Peak	31.57	26.82	58.39	68.20	-9.81

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Project No	:TM-2309000207P	Test Date	:2024-06-26
Operation Band	:802.11ax40/Band3_802.11g_ BLE	Temp./Humi.	:24.6/57
Frequency	:5670_2437_2476 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:E2	Test Chamber	: 966A
Setting	:20_20_31		

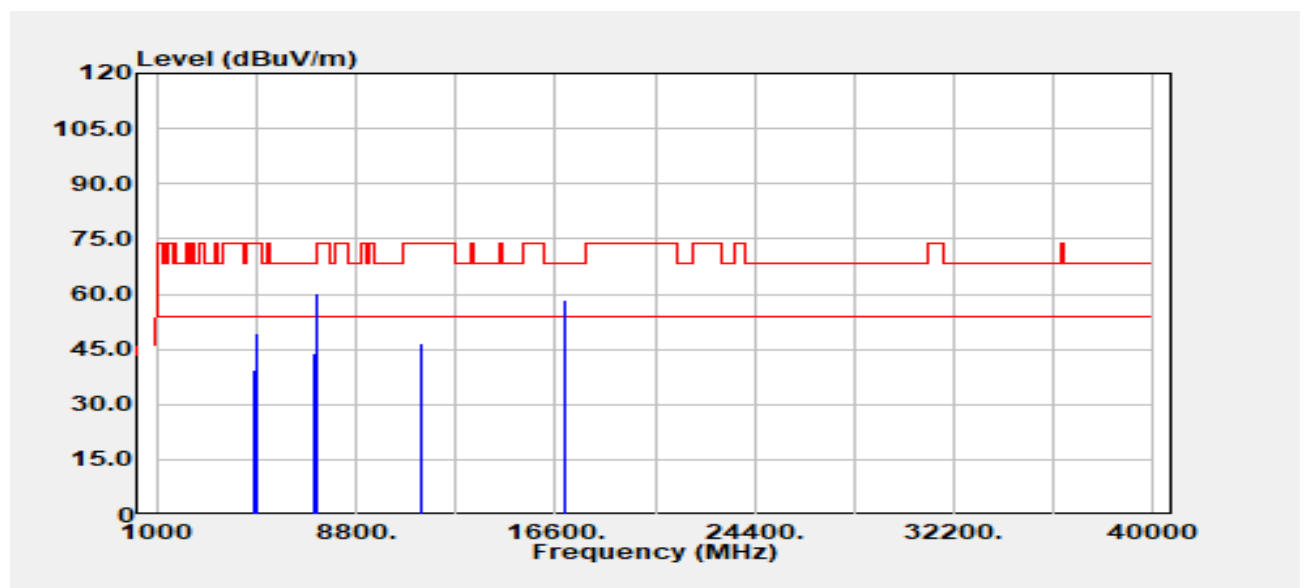


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
4874.00	Peak	47.07	2.49	49.56	74.00	-24.44
4874.00	Average	38.18	2.49	40.67	54.00	-13.33
4952.00	Peak	38.10	3.16	41.27	74.00	-32.73
4952.00	Average	32.33	3.16	35.49	54.00	-18.51
7311.00	Peak	46.40	8.96	55.36	74.00	-18.64
7311.00	Average	40.29	8.96	49.25	54.00	-4.75
7428.00	Peak	34.40	8.96	43.35	74.00	-30.65
7428.00	Average	27.05	8.96	36.01	54.00	-17.99
11340.00	Peak	33.67	13.87	47.53	74.00	-26.47
11340.00	Average	25.34	13.87	39.20	54.00	-14.80
17010.00	Peak	31.73	26.82	58.55	68.20	-9.65

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Project No	:TM-2309000207P	Test Date	:2024-06-26
Operation Band	:802.11ax40/Band3_802.11g_Zigbee	Temp./Humi.	:24.6/57
Frequency	:5670_2437_2405 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:E2	Test Chamber	: 966A
Setting	:20_20_25		

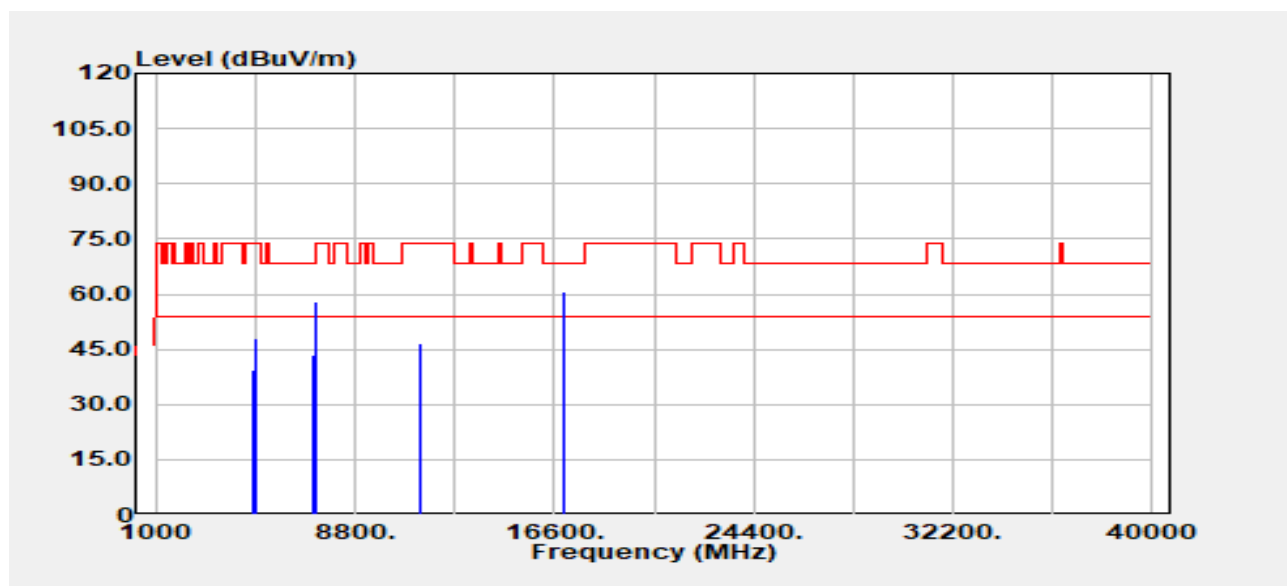


Freq.	Detector Mode	Spectrum Read Level	Factor	Actual FS	Limit	Margin
MHz	PK/QP/AV	dBuV	dB	dBuV/m	dBuV/m	dB
4810.00	Peak	37.04	2.23	39.27	74.00	-34.73
4810.00	Average	29.77	2.23	32.01	54.00	-21.99
4874.00	Peak	46.93	2.49	49.42	74.00	-24.58
4874.00	Average	37.96	2.49	40.45	54.00	-13.55
7215.00	Peak	34.77	9.06	43.83	68.20	-24.37
7311.00	Peak	51.28	8.96	60.25	74.00	-13.75
7311.00	Average	43.83	8.96	52.79	54.00	-1.21
11340.00	Peak	32.63	13.87	46.50	74.00	-27.50
11340.00	Average	26.76	13.87	40.62	54.00	-13.38
17010.00	Peak	31.50	26.82	58.33	68.20	-9.87

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Project No	:TM-2309000207P	Test Date	:2024-06-26
Operation Band	:802.11ax40/Band3_802.11g_Zigbee	Temp./Humi.	:24.6/57
Frequency	:5670_2437_2405 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:E2	Test Chamber	: 966A
Setting	:20_20_25		



Freq.	Detector Mode	Spectrum Read Level	Factor	Actual FS	Limit	Margin
MHz	PK/QP/AV	dBμV	dB	dBμV/m	dBμV/m	dB
4810.00	Peak	37.24	2.23	39.47	74.00	-34.53
4810.00	Average	29.92	2.23	32.15	54.00	-21.85
4874.00	Peak	45.42	2.49	47.92	74.00	-26.08
4874.00	Average	37.73	2.49	40.22	54.00	-13.78
7215.00	Peak	34.49	9.06	43.55	68.20	-24.65
7311.00	Peak	48.97	8.96	57.94	74.00	-16.06
7311.00	Average	40.59	8.96	49.55	54.00	-4.45
11340.00	Peak	32.79	13.87	46.65	74.00	-27.35
11340.00	Average	25.61	13.87	39.48	54.00	-14.52
17010.00	Peak	34.01	26.82	60.83	68.20	-7.37

5. DYNAMIC FREQUENCY SELECTION FOR MASTER

TEST PROCEDURE

According to FCC 47 CFR Part 15 Subpart E (Section 15.407),
KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02,
KDB 905462 D04 Operational Modes for DFS Testing New Rules v01
EUT is considered as a master device.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	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
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Operational Mode	
	Master Device or Client With Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

5.1 DFS DETECTION THRESHOLDS

Table 3 below provides the DFS Detection Thresholds for Master Devices as well as Client Devices incorporating In-Service Monitoring.

Table 3: DFS Detection Thresholds for Master Devices

Maximum Transmit Power	Value (see notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 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 signal is at or above the detection threshold level to trigger a DFS response. Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

5.2 DFS RESPONSE REQUIREMENT

Table 4 provides the response requirements for Master and Client Devices incorporating DFS.

Table 4: DFS Response Requirement Values

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 periods. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the 99% power bandwidth See Note 3.
Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. 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 Channel changes (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 0 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.	

5.3 RADAR TEST WAVEFORMS

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

5.3.1 Short Pulse Radar Test Waveforms

Radar Type 0 was used in the evaluation of the Client device for the purpose of measuring the Channel Move Time and the Channel Closing Transmission Time.

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	
1	1	Test A	$\text{Roundup}\left\{\left(\frac{1}{360}\right) \cdot \left(\frac{19 \cdot 10^6}{PRI_{\mu\text{sec}}}\right)\right\}$	60%	30
		Test B			
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
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

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

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. 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.

If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.

Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

5.3.2 Long Pulse Radar Test Waveform

Table 6 – Long Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of 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 test signal. If more than 30 waveforms are used for the Long Pulse radar test signal, then each additional waveform must also be unique and not repeated from the previous waveforms.

Each waveform is defined as follows:

Note: The center frequency for each of the 30 trials of the Bin 5 radar shall be randomly selected within 80% of the Occupied Bandwidth.

- (1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
- (2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst_Count.
- (3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- (4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
- (5) Each pulse has a linear frequency modulated chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a **transmission period** will have the same chirp width. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz
- (6) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.
- (7) The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst_Count. Each interval is of length $(12,000,000 / \text{Burst_Count})$ microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and $[(12,000,000 / \text{Burst_Count}) - (\text{Total Burst Length}) + (\text{One Random PRI Interval})]$ microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen independently.

A representative example of a Long Pulse radar test waveform:

- (1) The total test signal length is 12 seconds.
- (2) 8 Bursts are randomly generated for the Burst_Count.
- (3) Burst 1 has 2 randomly generated pulses.
- (4) The pulse width (for both pulses) is randomly selected to be 75 microseconds.
- (5) The PRI is randomly selected to be at 1213 microseconds.
- (6) Bursts 2 through 8 are generated using steps 3 – 5.
- (7) Each Burst is contained in even intervals of 1,500,000 microseconds. The starting location for Pulse 1, Burst 1 is randomly generated (1 to 1,500,000 minus the total Burst 1 length + 1 random PRI interval) at the 325,001 microsecond step. Bursts 2 through 8 randomly fall in successive 1,500,000 microsecond intervals (i.e. Burst 2 falls in the 1,500,001 – 3,000,000 microsecond range).

5.3.3 Frequency Hopping Radar Test Waveform

Table 7 – Frequency Hopping Radar Test Signal

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	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:

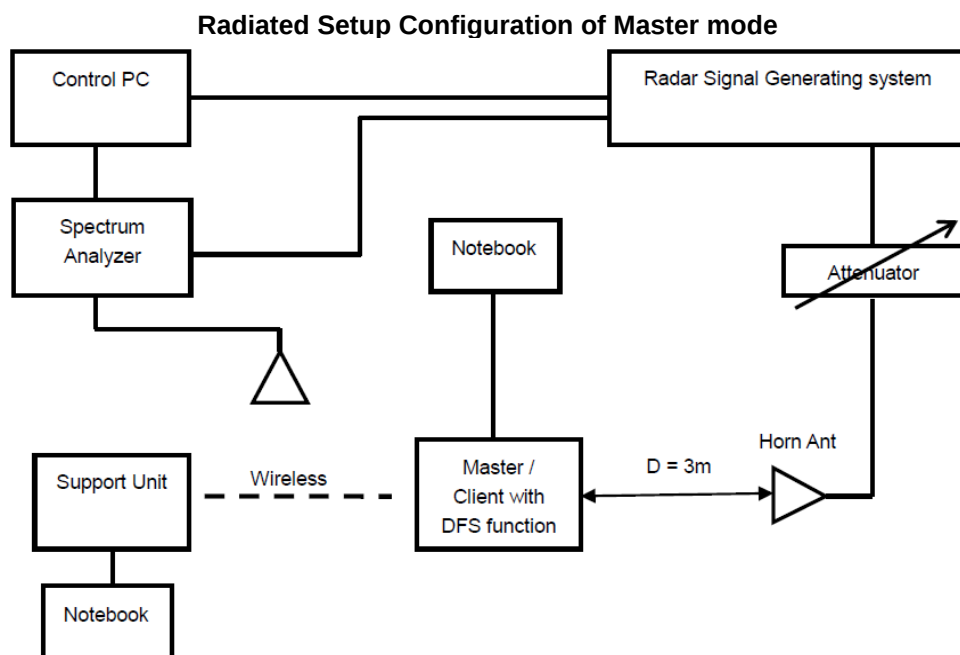
The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues 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.

5.4 CALIBRATION SETUP AND DFS TEST SETUP CONFIGURATION

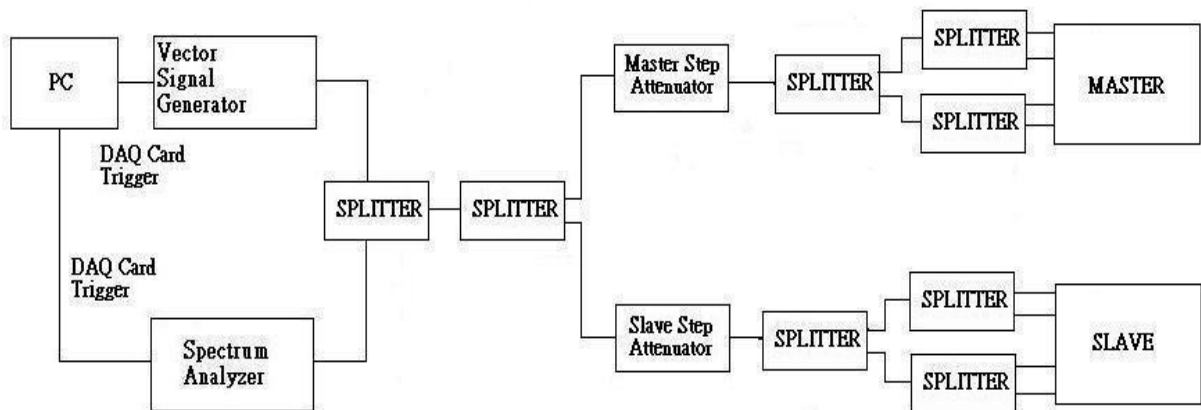
5.4.1 Radiated Test Setup Configuration

Radiated test setup up

The EUT is a U-NII Device operating in Master mode. The radar test signals are injected into the Master Device.



Conducted test setup up



Channel Loading

System testing will be performed with channel-loading using means appropriate to the data types that are used by the unlicensed device. The following requirements apply:

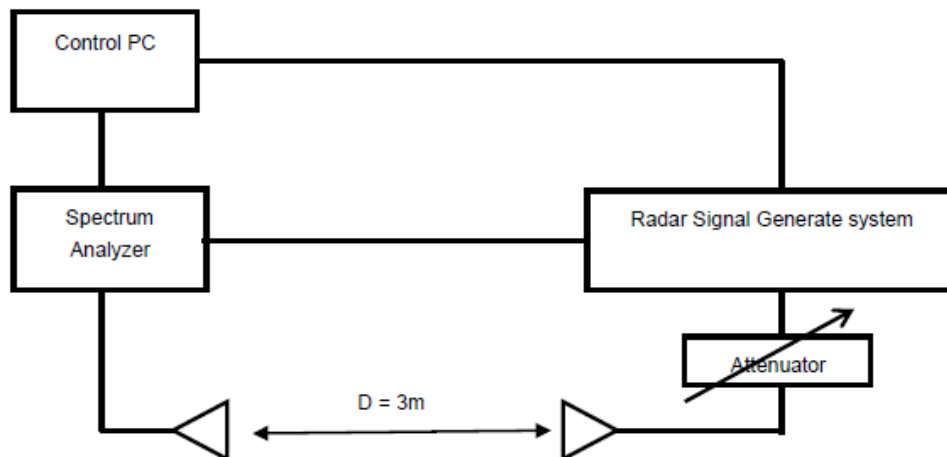
☐	(a) The data file must be of a type that is typical for the device (i.e., MPEG-2, MPEG-4, WAV, MP3, MP4, AVI, etc.) and must generally be transmitting in a streaming mode.
☐	(b) Software to ping the client is permitted to simulate data transfer but must have random ping intervals.
☒	(c) Timing plots are required with calculations demonstrating a minimum channel loading of approximately 17% or greater. For example, channel loading can be estimated by setting the spectrum analyzer for zero span and approximate the Time On/ (Time On + Off Time). This can be done with any appropriate channel BW and modulation type.
☐	(d) Unicast or Multicast protocols are preferable but other protocols may be used. The appropriate protocol used must be described in the test procedures.

5.4.2 Calibration of Radar Waveform

The radar signal was the same as transmitted channels, and injected into the antenna of AP (master) or Client Device with Radar Detection, measured the channel closing transmission time and channel move time.

Radiated setup configuration of Calibration of DFS Detection Threshold Level

The calibrated conducted detection threshold level is set to -64dBm for radiation configuration or -64dBm + antenna gain for conducted configuration. The tested level is lower than required level hence it provides margin to the limit.



5.4.3 Radar Waveform Calibration Result

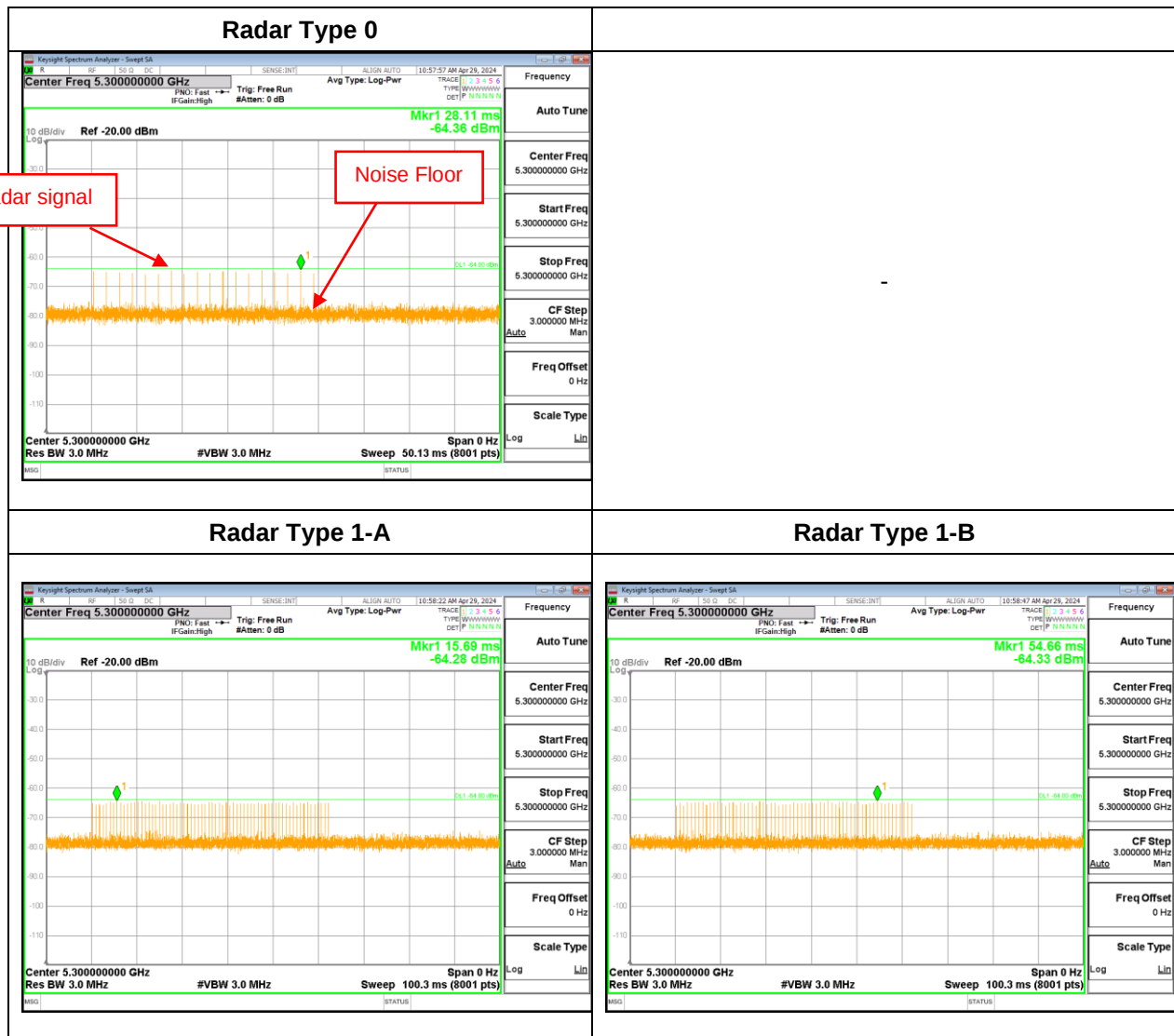
Temperature: 19.1 ~ 26.4°C

Test date: March 11 ~ May 6, 2024

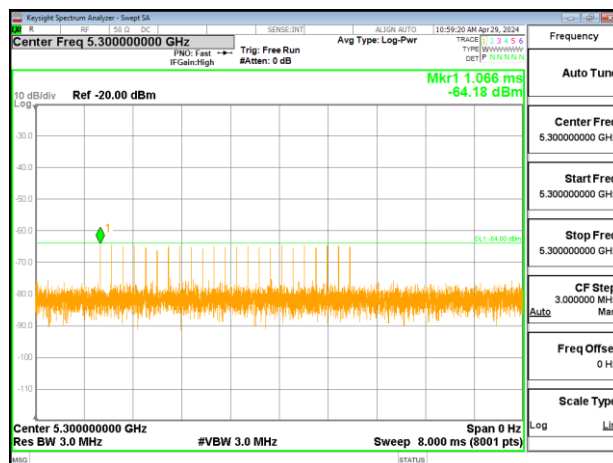
Humidity: 37 ~ 58% RH

Tested by: KW Huang

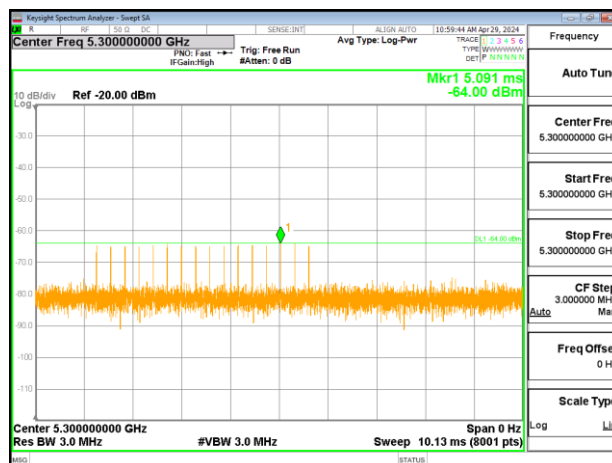
< Channel Bandwidth 20MHz / 5300MHz >



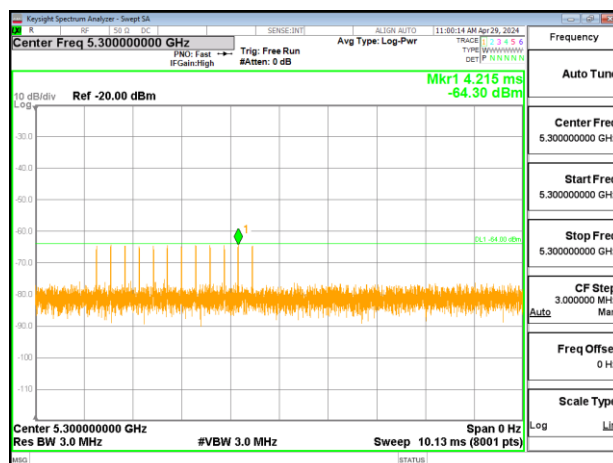
Radar Type 2



Radar Type 3



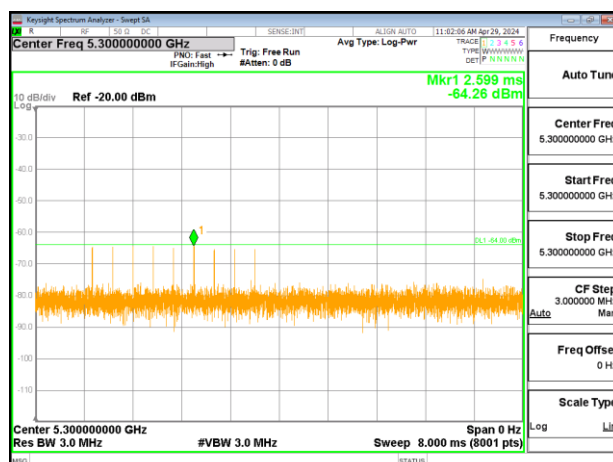
Radar Type 4



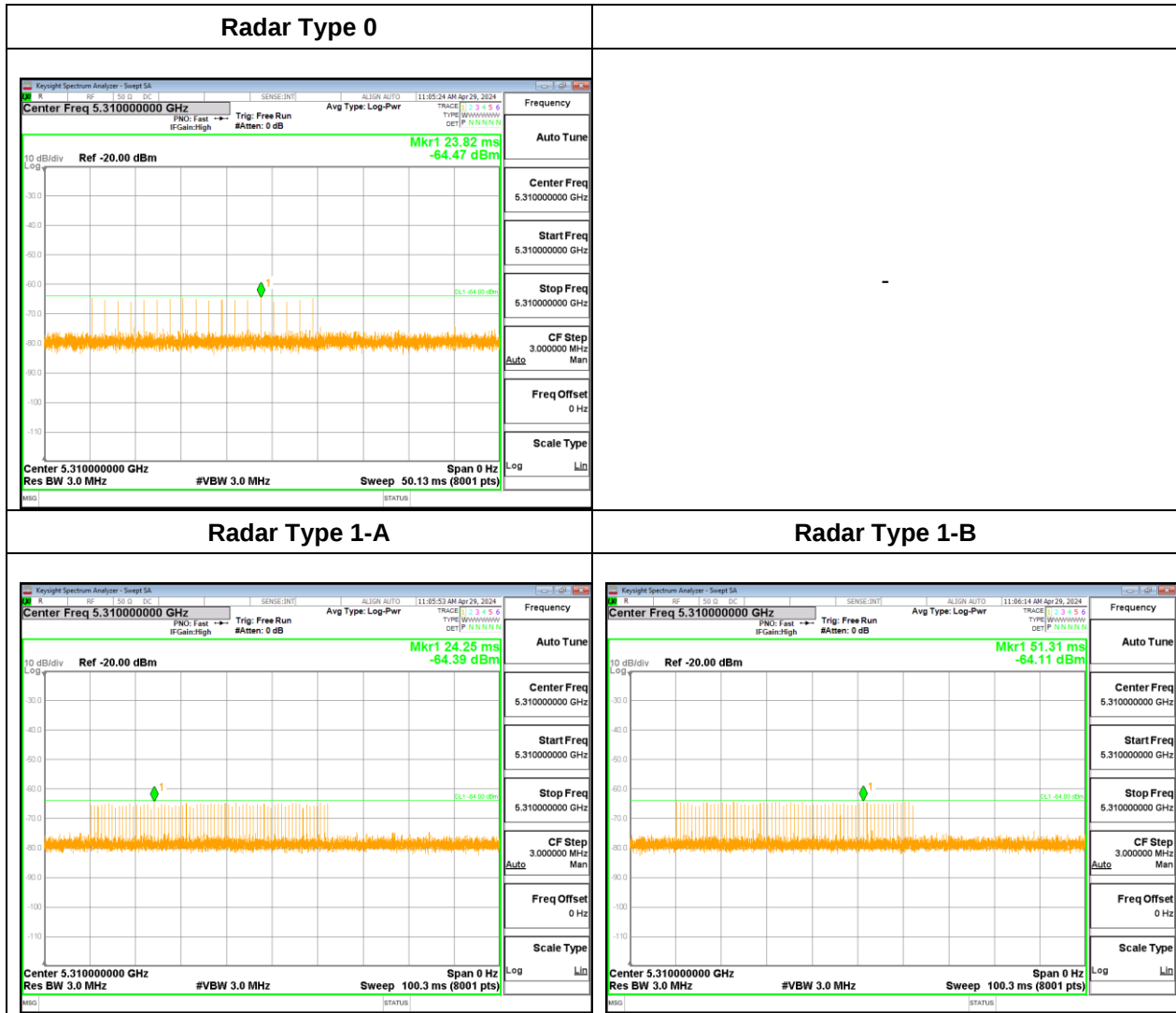
Radar Type 5



Radar Type 6



< Channel Bandwidth 40MHz / 5310MHz >



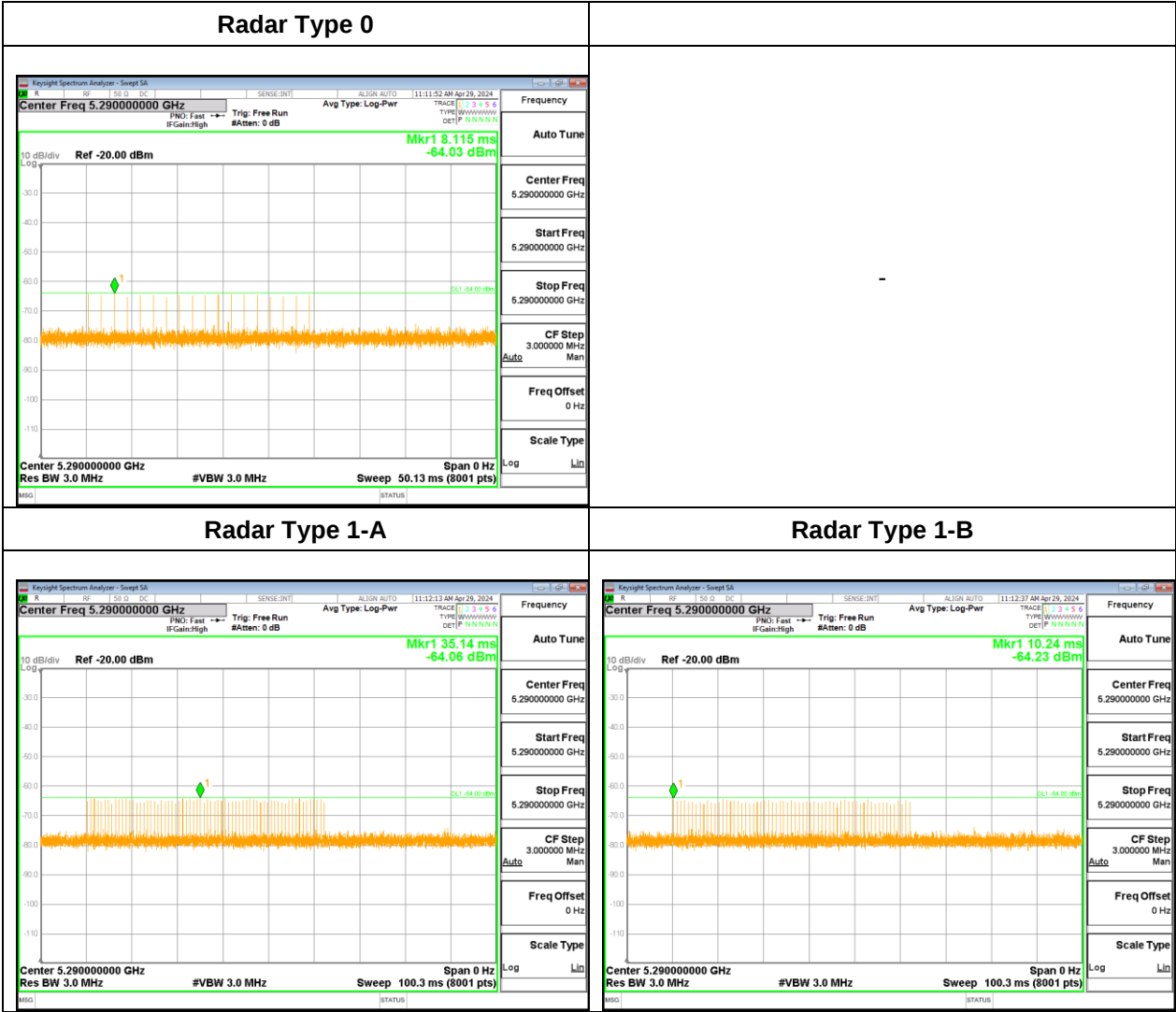




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< Channel Bandwidth 80MHz / 5290MHz >

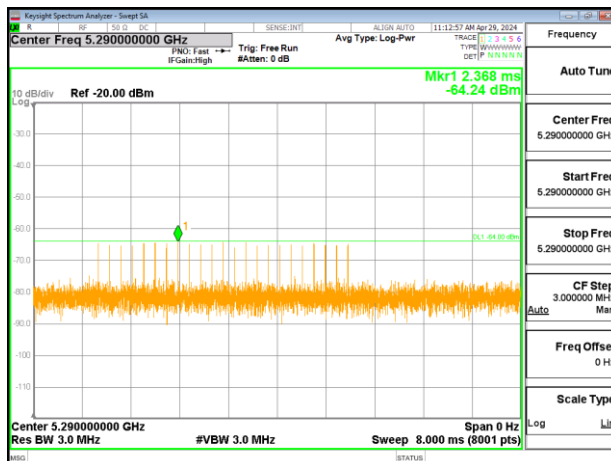




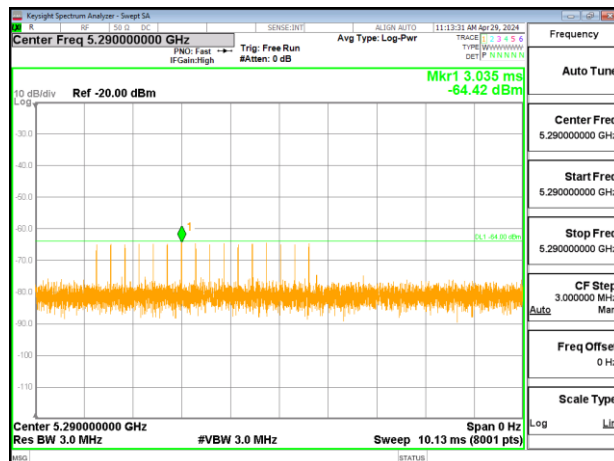
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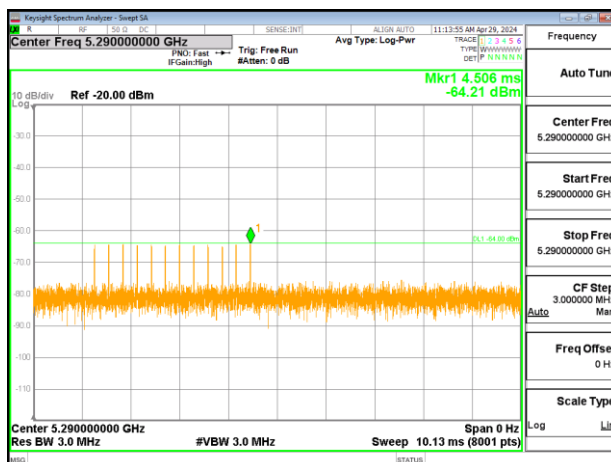
Radar Type 2



Radar Type 3



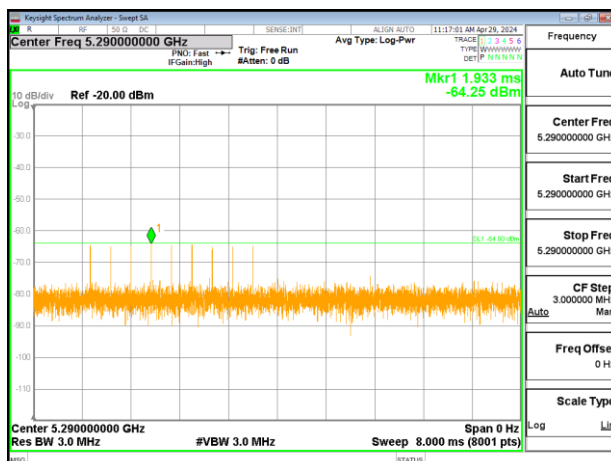
Radar Type 4



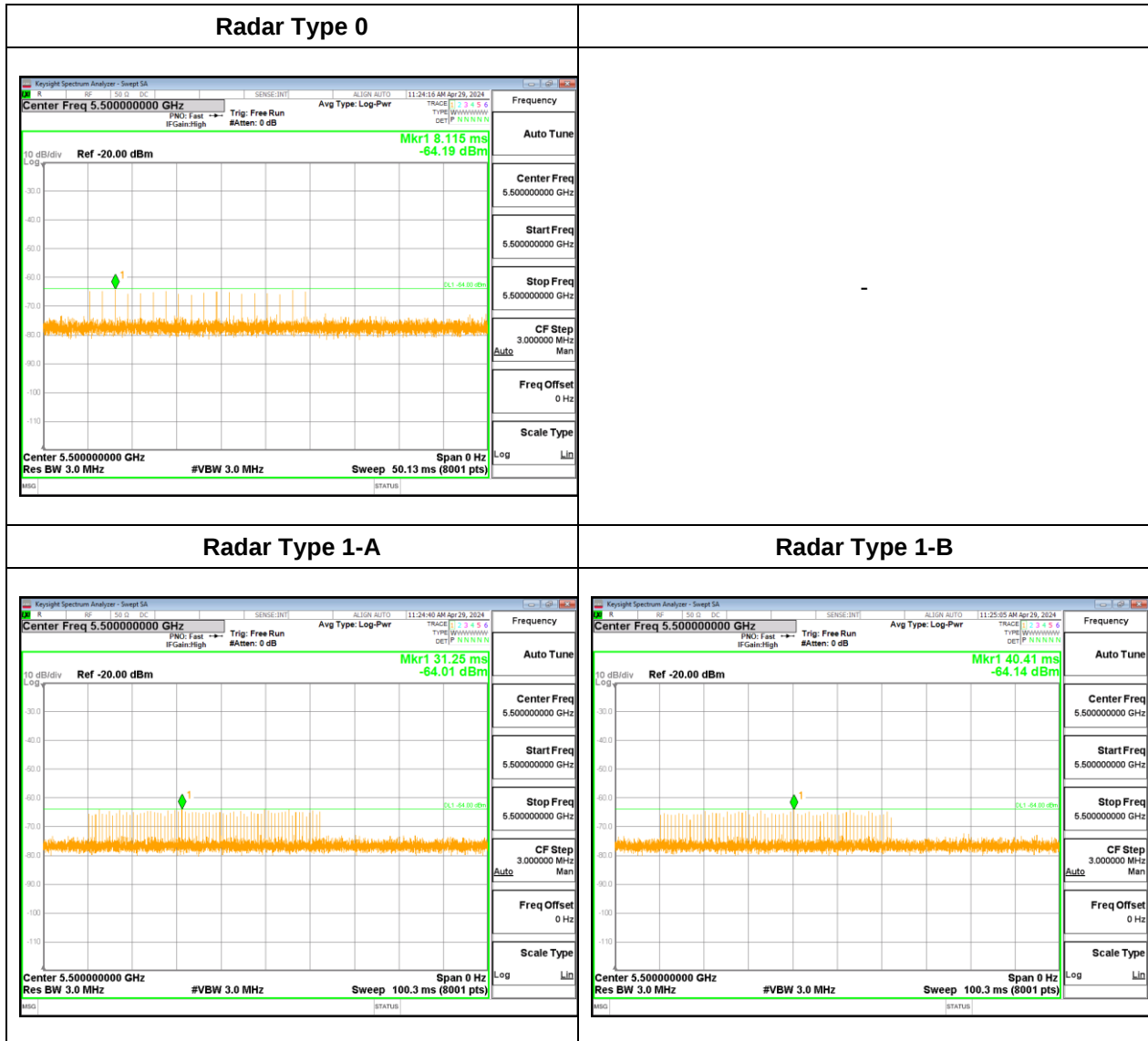
Radar Type 5



Radar Type 6



< Channel Bandwidth 20MHz / 5500MHz >

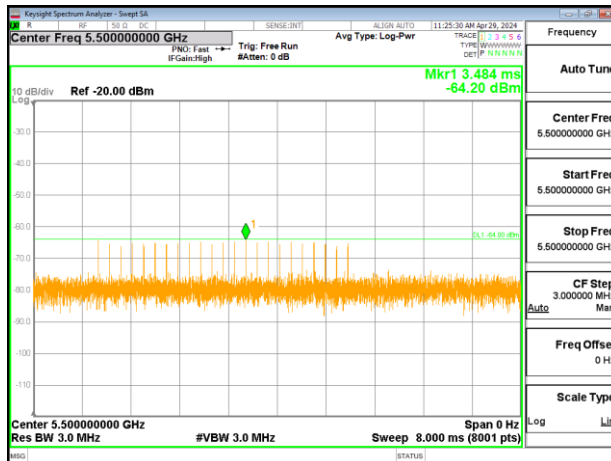




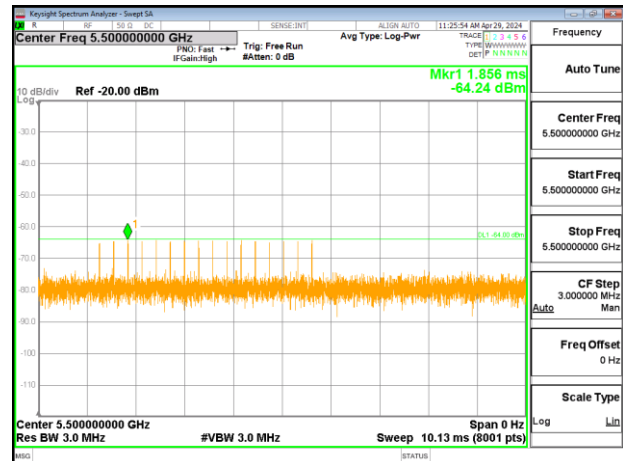
Report No.: TMWK2309003309KR

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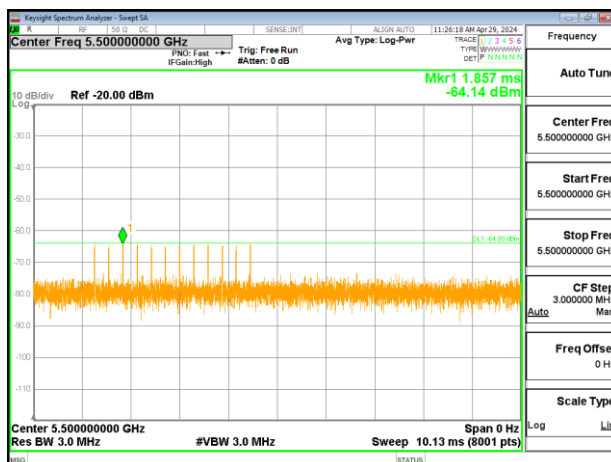
Radar Type 2



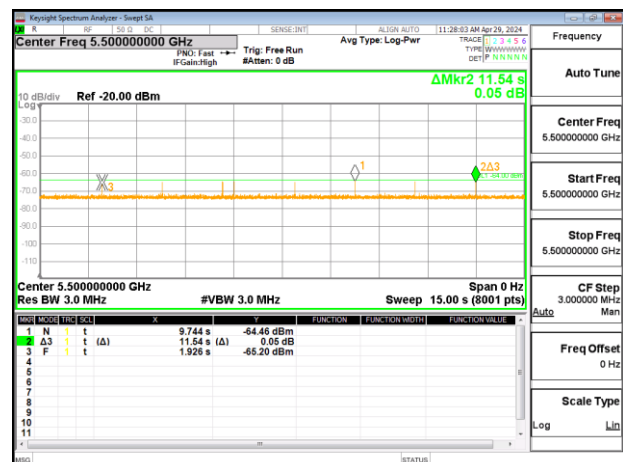
Radar Type 3



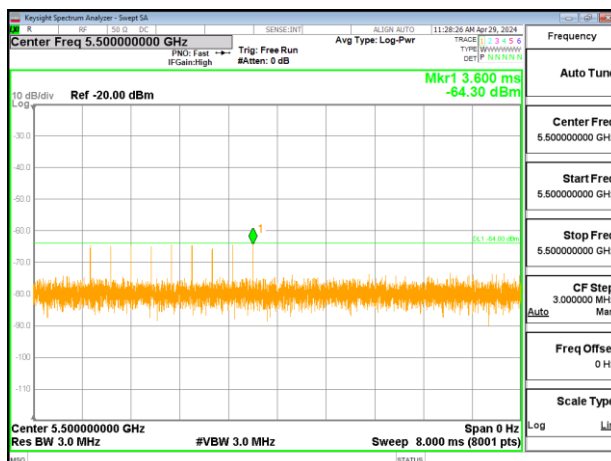
Radar Type 4



Radar Type 5



Radar Type 6



< Channel Bandwidth 40MHz / 5510MHz >

