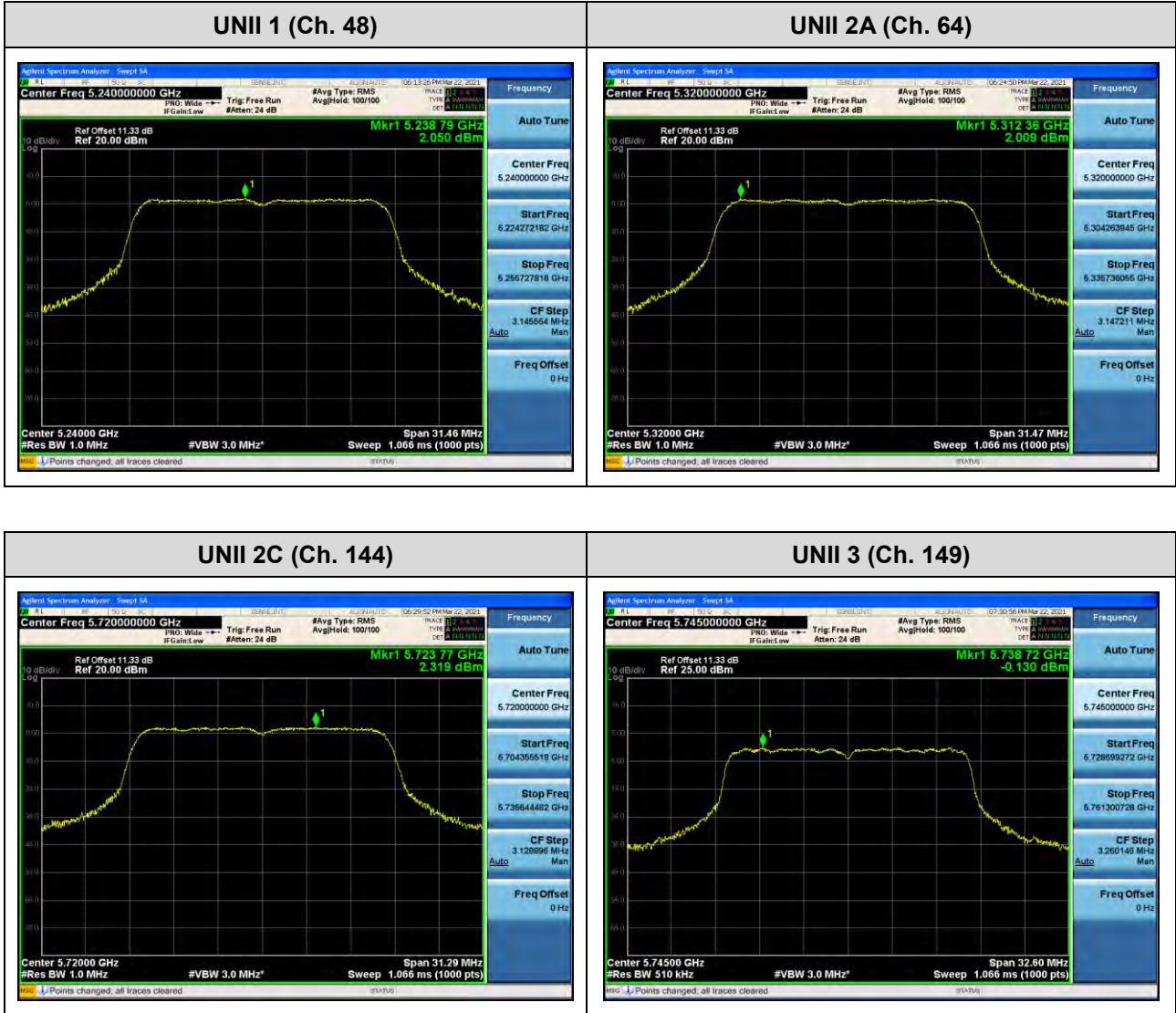


Test Plots(802.11ac(VHT20))

Note:

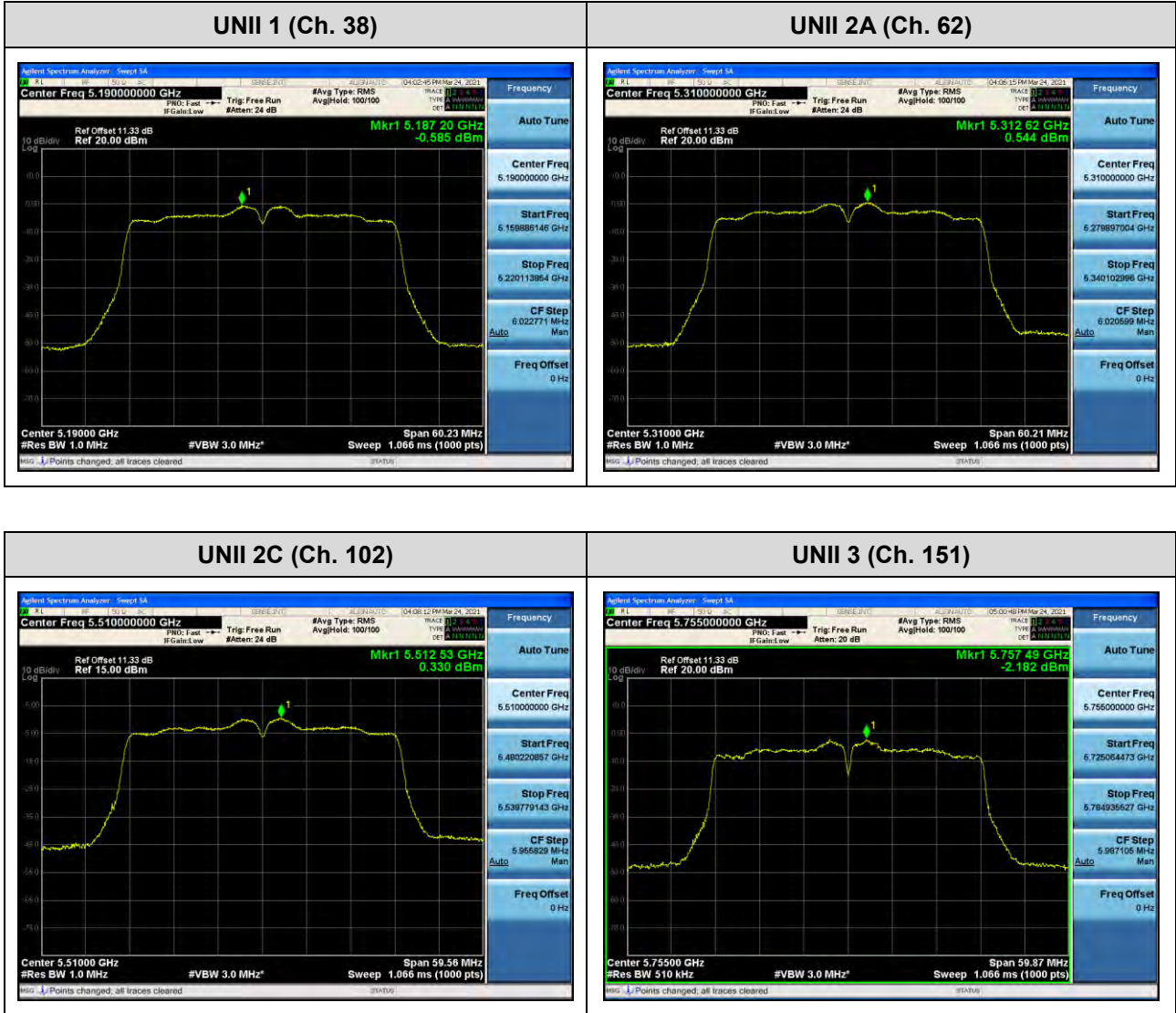
In order to simplify the report, attached plots were only channel of highest power.



Test Plots(802.11ac(VHT40))

Note:

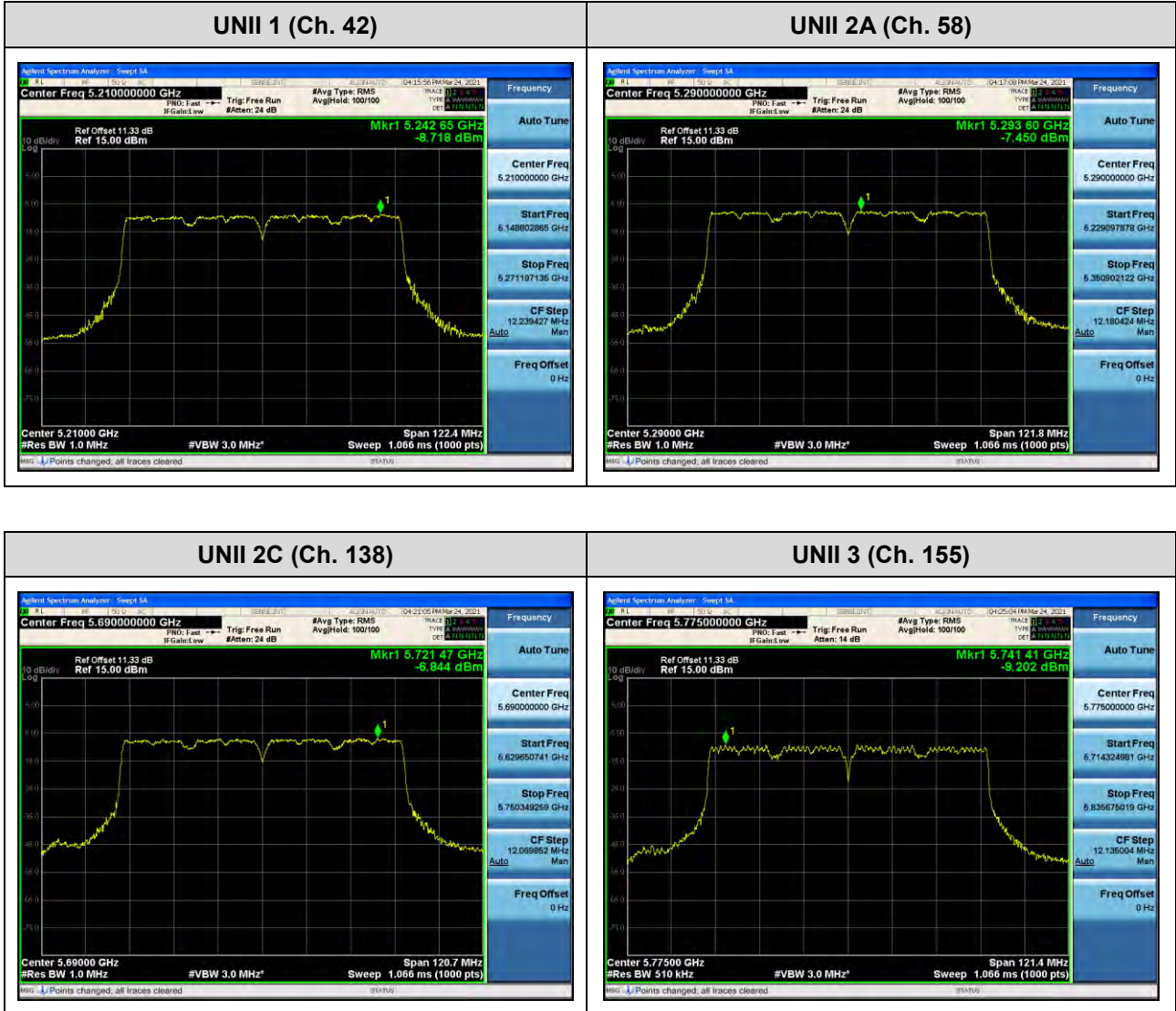
In order to simplify the report, attached plots were only channel of highest power.



Test Plots(802.11ac(VHT80))

Note:

In order to simplify the report, attached plots were only channel of highest power.



10.6 FREQUENCY STABILITY.

10.6.1 80MHz BW

Startup after the EUT is energized

[Ant.1]

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210035.64	35.64
100%		-30	5210005.50	5.50
100%		-20	5210012.92	12.92
100%		-10	5210020.50	20.50
100%		0	5210021.76	21.76
100%		+10	5210028.16	28.16
100%		+30	5210039.77	39.77
100%		+40	5210045.10	45.10
100%		+50	5210051.89	51.89
Batt. Endpoint		5.50	+20	5210035.42

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290031.19	31.19
100%		-30	5290009.61	9.61
100%		-20	5290013.11	13.11
100%		-10	5290017.66	17.66
100%		0	5290023.25	23.25
100%		+10	5290028.29	28.29
100%		+30	5290038.09	38.09
100%		+40	5290050.63	50.63
100%		+50	5290059.08	59.08
Batt. Endpoint	5.50	+20	5290033.03	33.03

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530030.49	30.49
100%		-30	5530010.24	10.24
100%		-20	5530012.69	12.69
100%		-10	5530017.71	17.71
100%		0	5530025.32	25.32
100%		+10	5530028.92	28.92
100%		+30	5530040.69	40.69
100%		+40	5530040.56	40.56
100%		+50	5530052.97	52.97
Batt. Endpoint	5.50	+20	5530032.71	32.71

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775031.80	31.80
100%		-30	5775008.11	8.11
100%		-20	5775010.61	10.61
100%		-10	5775016.43	16.43
100%		0	5775021.15	21.15
100%		+10	5775028.86	28.86
100%		+30	5775037.16	37.16
100%		+40	5775048.85	48.85
100%		+50	5775054.88	54.88
Batt. Endpoint	5.50	+20	5775030.49	30.49

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210034.74	34.74
100%		-30	5210006.95	6.95
100%		-20	5210010.29	10.29
100%		-10	5210017.68	17.68
100%		0	5210022.65	22.65
100%		+10	5210029.79	29.79
100%		+30	5210036.42	36.42
100%		+40	5210040.95	40.95
100%		+50	5210056.26	56.26
Batt. Endpoint	5.50	+20	5210030.57	30.57

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290035.14	35.14
100%		-30	5290005.63	5.63
100%		-20	5290012.62	12.62
100%		-10	5290020.82	20.82
100%		0	5290021.63	21.63
100%		+10	5290028.84	28.84
100%		+30	5290035.19	35.19
100%		+40	5290042.23	42.23
100%		+50	5290054.42	54.42
Batt. Endpoint	5.50	+20	5290034.43	34.43

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530032.17	32.17
100%		-30	5530010.67	10.67
100%		-20	5530014.66	14.66
100%		-10	5530019.67	19.67
100%		0	5530020.54	20.54
100%		+10	5530028.52	28.52
100%		+30	5530038.34	38.34
100%		+40	5530045.29	45.29
100%		+50	5530055.27	55.27
Batt. Endpoint	5.50	+20	5530032.93	32.93

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775034.25	34.25
100%		-30	5775010.61	10.61
100%		-20	5775011.23	11.23
100%		-10	5775020.53	20.53
100%		0	5775025.75	25.75
100%		+10	5775025.14	25.14
100%		+30	5775037.96	37.96
100%		+40	5775048.77	48.77
100%		+50	5775056.28	56.28
Batt. Endpoint	5.50	+20	5775032.05	32.05

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

5 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210035.49	35.49
100%		-30	5210008.72	8.72
100%		-20	5210011.75	11.75
100%		-10	5210016.05	16.05
100%		0	5210021.66	21.66
100%		+10	5210029.91	29.91
100%		+30	5210036.75	36.75
100%		+40	5210050.24	50.24
100%		+50	5210055.30	55.30
Batt. Endpoint	5.50	+20	5210031.88	31.88

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290033.44	33.44
100%		-30	5290010.02	10.02
100%		-20	5290012.32	12.32
100%		-10	5290017.72	17.72
100%		0	5290023.02	23.02
100%		+10	5290030.55	30.55
100%		+30	5290035.36	35.36
100%		+40	5290050.91	50.91
100%		+50	5290051.49	51.49
Batt. Endpoint	5.50	+20	5290030.71	30.71

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530030.09	30.09
100%		-30	5530005.59	5.59
100%		-20	5530012.13	12.13
100%		-10	5530019.73	19.73
100%		0	5530023.97	23.97
100%		+10	5530026.11	26.11
100%		+30	5530038.25	38.25
100%		+40	5530044.85	44.85
100%		+50	5530050.24	50.24
Batt. Endpoint	5.50	+20	5530032.58	32.58

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775030.77	30.77
100%		-30	5775006.88	6.88
100%		-20	5775010.23	10.23
100%		-10	5775016.71	16.71
100%		0	5775021.24	21.24
100%		+10	5775027.86	27.86
100%		+30	5775037.57	37.57
100%		+40	5775049.50	49.5
100%		+50	5775051.54	51.54
Batt. Endpoint	5.50	+20	5775032.53	32.53

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

10 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210034.69	34.69
100%		-30	5210008.98	8.98
100%		-20	5210012.04	12.04
100%		-10	5210016.51	16.51
100%		0	5210024.61	24.61
100%		+10	5210027.09	27.09
100%		+30	5210039.37	39.37
100%		+40	5210040.14	40.14
100%		+50	5210051.90	51.90
Batt. Endpoint	5.50	+20	5210032.14	32.14

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290033.63	33.63
100%		-30	5290008.72	8.72
100%		-20	5290010.79	10.79
100%		-10	5290016.51	16.51
100%		0	5290023.87	23.87
100%		+10	5290027.59	27.59
100%		+30	5290038.75	38.75
100%		+40	5290041.75	41.75
100%		+50	5290051.52	51.52
Batt. Endpoint	5.50	+20	5290034.61	34.61

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530034.21	34.21
100%		-30	5530009.21	9.21
100%		-20	5530013.82	13.82
100%		-10	5530016.75	16.75
100%		0	5530025.45	25.45
100%		+10	5530026.39	26.39
100%		+30	5530037.68	37.68
100%		+40	5530043.24	43.24
100%		+50	5530060.15	60.15
Batt. Endpoint	5.50	+20	5530034.56	34.56

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775032.34	32.34
100%		-30	5775006.67	6.67
100%		-20	5775012.34	12.34
100%		-10	5775019.30	19.3
100%		0	5775023.72	23.72
100%		+10	5775030.87	30.87
100%		+30	5775038.70	38.7
100%		+40	5775043.54	43.54
100%		+50	5775055.69	55.69
Batt. Endpoint	5.50	+20	5775032.81	32.81

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

[Ant.2]

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210034.37	34.37
100%		-30	5210006.47	6.47
100%		-20	5210013.42	13.42
100%		-10	5210016.63	16.63
100%		0	5210020.94	20.94
100%		+10	5210028.11	28.11
100%		+30	5210036.24	36.24
100%		+40	5210050.44	50.44
100%		+50	5210052.77	52.77
Batt. Endpoint	5.50	+20	5210032.51	32.51

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290035.30	35.30
100%		-30	5290008.54	8.54
100%		-20	5290015.06	15.06
100%		-10	5290015.32	15.32
100%		0	5290023.42	23.42
100%		+10	5290027.24	27.24
100%		+30	5290035.03	35.03
100%		+40	5290044.13	44.13
100%		+50	5290052.63	52.63
Batt. Endpoint	5.50	+20	5290033.32	33.32

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530033.80	33.80
100%		-30	5530007.76	7.76
100%		-20	5530013.52	13.52
100%		-10	5530017.03	17.03
100%		0	5530024.18	24.18
100%		+10	5530027.06	27.06
100%		+30	5530036.31	36.31
100%		+40	5530050.04	50.04
100%		+50	5530052.95	52.95
Batt. Endpoint	5.50	+20	5530033.73	33.73

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775032.40	32.40
100%		-30	5775006.99	6.99
100%		-20	5775015.90	15.9
100%		-10	5775020.34	20.34
100%		0	5775021.31	21.31
100%		+10	5775026.06	26.06
100%		+30	5775039.76	39.76
100%		+40	5775040.29	40.29
100%		+50	5775060.61	60.61
Batt. Endpoint	5.50	+20	5775035.75	35.75

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210030.39	30.39
100%		-30	5210009.64	9.64
100%		-20	5210013.96	13.96
100%		-10	5210015.79	15.79
100%		0	5210024.89	24.89
100%		+10	5210025.43	25.43
100%		+30	5210035.17	35.17
100%		+40	5210043.67	43.67
100%		+50	5210058.99	58.99
Batt. Endpoint	5.50	+20	5210033.43	33.43

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290035.05	35.05
100%		-30	5290006.57	6.57
100%		-20	5290011.46	11.46
100%		-10	5290015.90	15.9
100%		0	5290022.40	22.4
100%		+10	5290030.26	30.26
100%		+30	5290035.58	35.58
100%		+40	5290047.31	47.31
100%		+50	5290054.78	54.78
Batt. Endpoint	5.50	+20	5290030.30	30.3

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530032.50	32.50
100%		-30	5530009.88	9.88
100%		-20	5530012.40	12.4
100%		-10	5530020.29	20.29
100%		0	5530025.82	25.82
100%		+10	5530029.11	29.11
100%		+30	5530038.03	38.03
100%		+40	5530043.34	43.34
100%		+50	5530051.93	51.93
Batt. Endpoint	5.50	+20	5530030.93	30.93

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775030.36	30.36
100%		-30	5775007.46	7.46
100%		-20	5775015.61	15.61
100%		-10	5775018.22	18.22
100%		0	5775020.21	20.21
100%		+10	5775026.35	26.35
100%		+30	5775040.43	40.43
100%		+40	5775050.59	50.59
100%		+50	5775059.84	59.84
Batt. Endpoint	5.50	+20	5775034.26	34.26

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

5 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210033.84	33.84
100%		-30	5210008.67	8.67
100%		-20	5210013.79	13.79
100%		-10	5210016.46	16.46
100%		0	5210025.94	25.94
100%		+10	5210025.06	25.06
100%		+30	5210037.17	37.17
100%		+40	5210044.51	44.51
100%		+50	5210052.07	52.07
Batt. Endpoint	5.50	+20	5210035.28	35.28

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290031.11	31.11
100%		-30	5290007.86	7.86
100%		-20	5290015.26	15.26
100%		-10	5290015.94	15.94
100%		0	5290022.72	22.72
100%		+10	5290029.85	29.85
100%		+30	5290036.90	36.9
100%		+40	5290046.27	46.27
100%		+50	5290050.50	50.50
Batt. Endpoint	5.50	+20	5290031.33	31.33

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530034.76	34.76
100%		-30	5530005.27	5.27
100%		-20	5530015.32	15.32
100%		-10	5530015.10	15.1
100%		0	5530023.55	23.55
100%		+10	5530028.86	28.86
100%		+30	5530039.35	39.35
100%		+40	5530048.94	48.94
100%		+50	5530050.04	50.04
Batt. Endpoint	5.50	+20	5530032.11	32.11

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775033.88	33.88
100%		-30	5775007.45	7.45
100%		-20	5775013.37	13.37
100%		-10	5775017.76	17.76
100%		0	5775021.33	21.33
100%		+10	5775025.59	25.59
100%		+30	5775038.61	38.61
100%		+40	5775042.52	42.52
100%		+50	5775054.85	54.85
Batt. Endpoint	5.50	+20	5775030.87	30.87

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

10 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5210031.70	31.70
100%		-30	5210009.63	9.63
100%		-20	5210015.06	15.06
100%		-10	5210015.39	15.39
100%		0	5210023.32	23.32
100%		+10	5210030.32	30.32
100%		+30	5210035.65	35.65
100%		+40	5210045.02	45.02
100%		+50	5210059.78	59.78
Batt. Endpoint	5.50	+20	5210034.47	34.47

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5290034.72	34.72
100%		-30	5290009.54	9.54
100%		-20	5290010.43	10.43
100%		-10	5290015.35	15.35
100%		0	5290022.82	22.82
100%		+10	5290025.91	25.91
100%		+30	5290036.98	36.98
100%		+40	5290044.46	44.46
100%		+50	5290060.92	60.92
Batt. Endpoint	5.50	+20	5290031.11	31.11

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5530031.81	31.81
100%		-30	5530009.57	9.57
100%		-20	5530011.43	11.43
100%		-10	5530020.60	20.6
100%		0	5530020.10	20.1
100%		+10	5530027.55	27.55
100%		+30	5530040.58	40.58
100%		+40	5530050.21	50.21
100%		+50	5530056.57	56.57
Batt. Endpoint	5.50	+20	5530032.83	32.83

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,775,000,000 Hz
 CHANNEL: 155
 REFERENCE VOLTAGE: 7.72 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	7.72	+20(Ref)	5775033.34	33.34
100%		-30	5775005.94	5.94
100%		-20	5775011.95	11.95
100%		-10	5775019.07	19.07
100%		0	5775021.73	21.73
100%		+10	5775027.23	27.23
100%		+30	5775038.32	38.32
100%		+40	5775050.89	50.89
100%		+50	5775059.80	59.80
Batt. Endpoint	5.50	+20	5775030.14	30.14

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

10.7 STRADDLE CHANNEL

10.7.1 26dB Bandwidth

[Ant.1]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26dB Bandwidth [MHz]
802.11a	UNII 2C	5720	144	5710.76	14.24
802.11n(HT20)				5709.88	15.12
802.11ac(VHT20)				5709.48	15.52
802.11a	UNII 3	5720	144	5729.36	4.36
802.11n(HT20)				5729.88	4.88
802.11ac(VHT20)				5730.68	5.68

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5690.72	34.28
802.11ac(VHT40)				5690.56	34.44
802.11n(HT40)	UNII 3	5710	142	5729.52	4.52
802.11ac(VHT40)				5729.36	4.36

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5646.92	78.08
	UNII 3	5690	138	5736.44	11.44

Note:

[UNII 2C] 26dB Bandwidth = 5 725 MHz - Measured Frequency[MHz]

[UNII 3C] 26dB Bandwidth = Measured Frequency[MHz] – 5 725 MHz

[Ant.2]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26dB Bandwidth [MHz]
802.11a	UNII 2C	5720	144	5710.20	14.80
802.11n(HT20)				5709.16	15.84
802.11ac(VHT20)				5709.28	15.72
802.11a	UNII 3	5720	144	5729.76	4.76
802.11n(HT20)				5731.04	6.04
802.11ac(VHT20)				5731.12	6.12

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5690.72	34.28
802.11ac(VHT40)				5690.64	34.36
802.11n(HT40)	UNII 3	5710	142	5729.60	4.60
802.11ac(VHT40)				5729.52	4.52

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5647.04	77.96
	UNII 3	5690	138	5736.56	11.56

Note:

[UNII 2C] 26dB Bandwidth = 5 725 MHz - Measured Frequency[MHz]

[UNII 3C] 26dB Bandwidth = Measured Frequency[MHz] – 5 725 MHz

[Ant.1]

☐ Test Plots (26dB Bandwidth)



☐ Test Plots (26dB Bandwidth)

802.11n(HT40) UNII Band



802.11ac(VHT40) UNII Band



802.11ac(VHT80) UNII Band



[Ant.2]

☐ Test Plots (26dB Bandwidth)

802.11a UNII Band



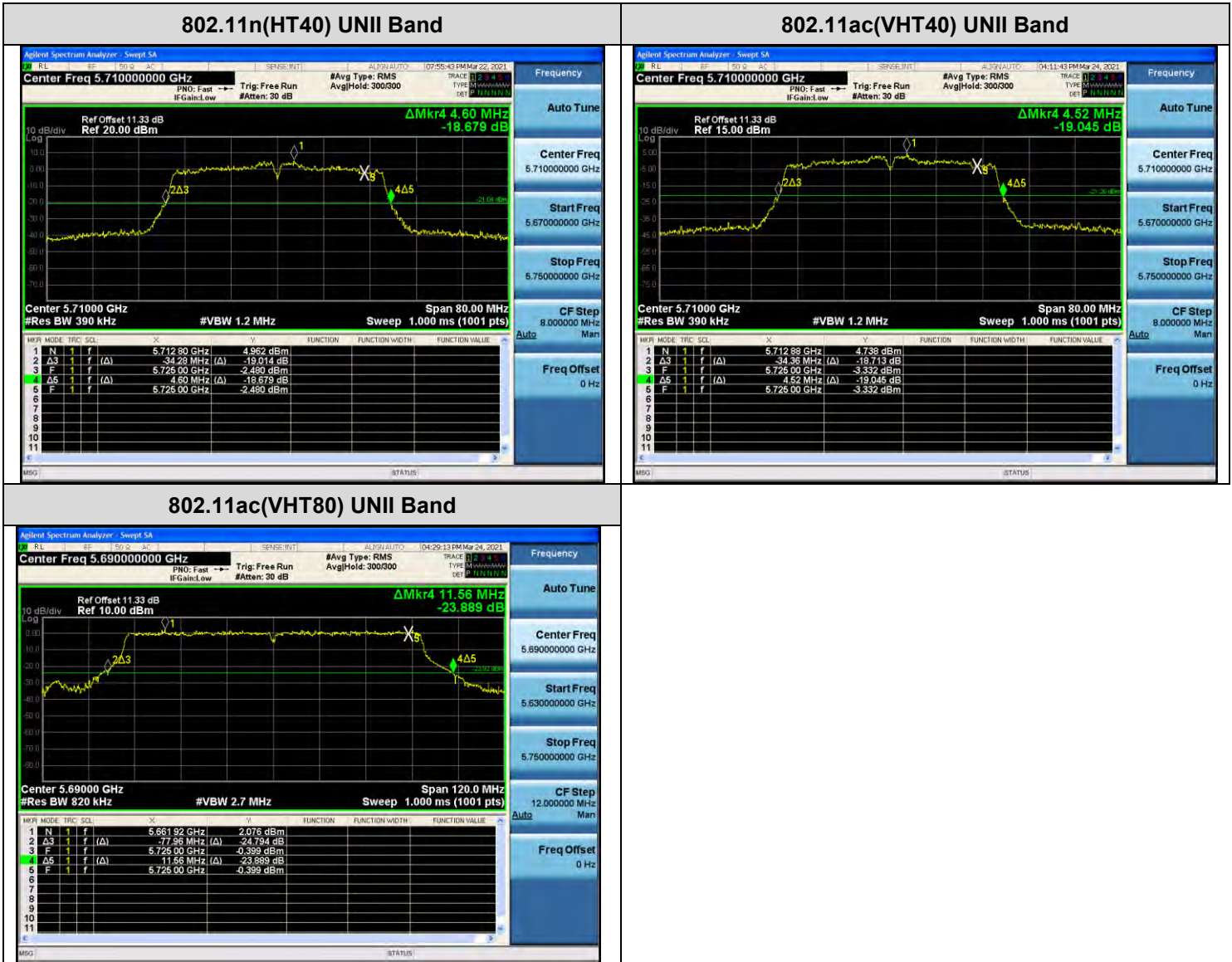
802.11n(HT20) UNII Band



802.11ac(VHT20) UNII Band



Test Plots (26dB Bandwidth)



10.7.2 6dB Bandwidth

[Ant.1]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]	Limit [MHz]
802.11a	UNII 3	5720	144	5727.56	2.56	> 0.5
802.11n(HT20)				5727.56	2.56	> 0.5
802.11ac(VHT20)				5728.88	3.88	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]	Limit [MHz]
802.11n(HT40)	UNII 3	5710	142	5727.60	2.60	> 0.5
802.11ac(VHT40)				5727.60	2.60	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]	Limit [MHz]
802.11ac(VHT80)	UNII 3	5690	138	5728.40	3.40	> 0.5

Note:

6dB Bandwidth = Measured Frequency[MHz] – 5725MHz

[Ant.2]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]	Limit [MHz]
802.11a	UNII 3	5720	144	5727.56	2.56	> 0.5
802.11n(HT20)				5728.88	3.88	> 0.5
802.11ac(VHT20)				5728.88	3.88	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]	Limit [MHz]
802.11n(HT40)	UNII 3	5710	142	5727.60	2.60	> 0.5
802.11ac(VHT40)				5727.60	2.60	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]	Limit [MHz]
802.11ac(VHT80)	UNII 3	5690	138	5728.28	3.28	> 0.5

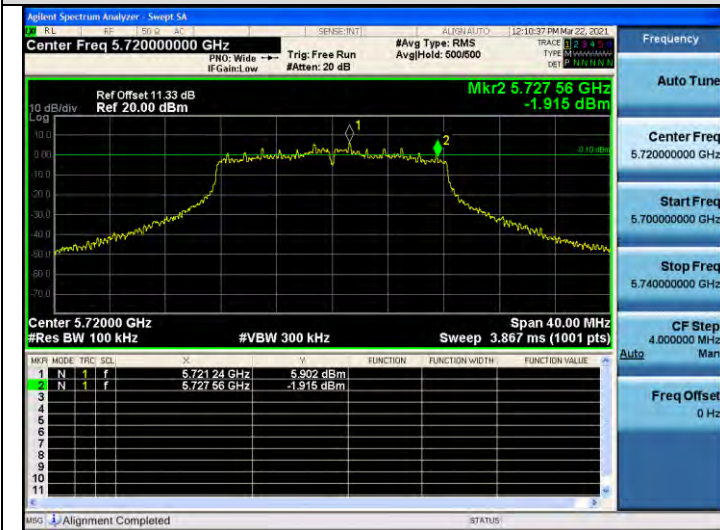
Note:

6dB Bandwidth = Measured Frequency[MHz] – 5725MHz

[Ant.1]

☐ Test Plots(UNII 3 Band 6dB Bandwidth)

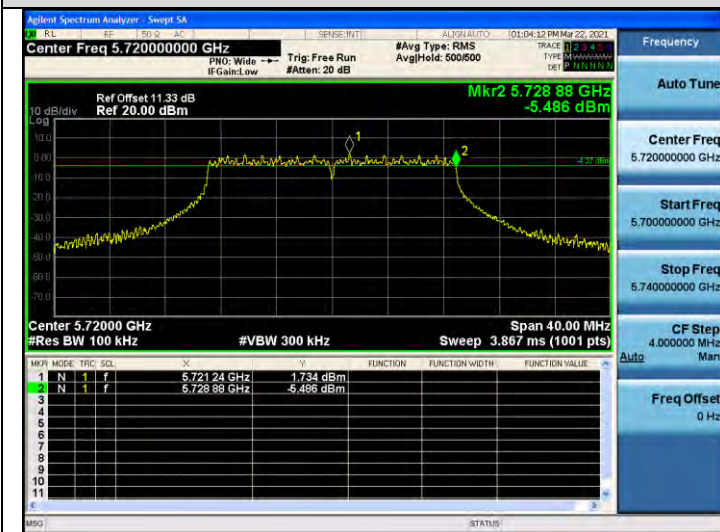
802.11a CH.144



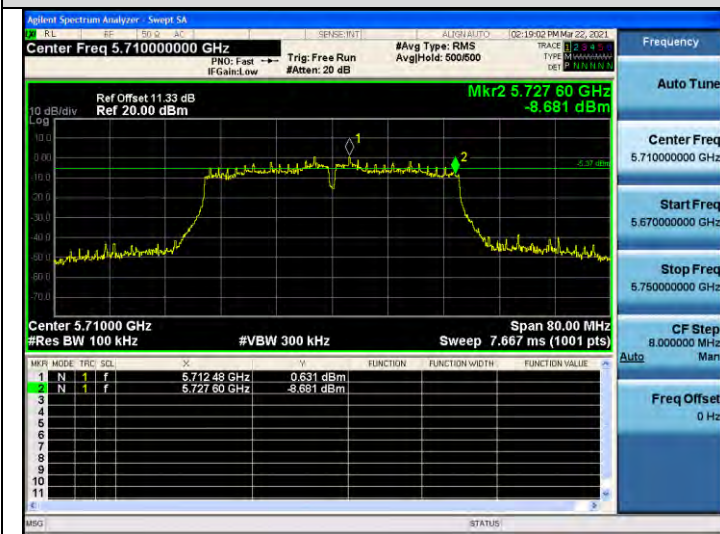
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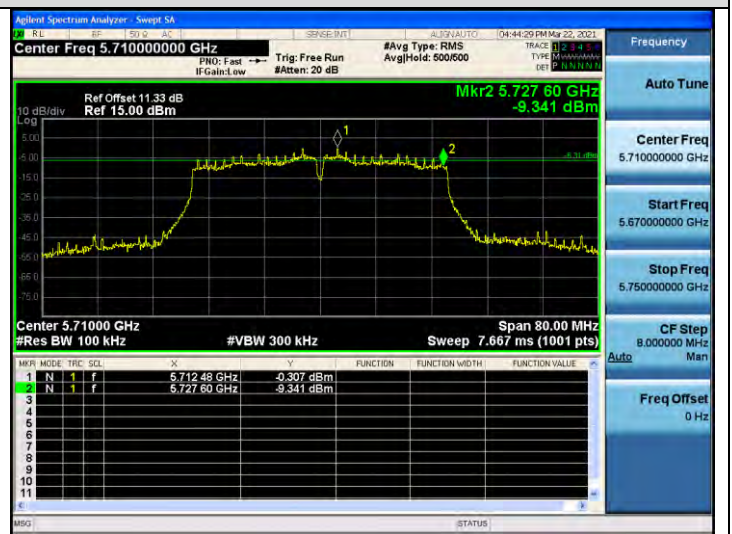
802.11ac_VHT20 CH.144



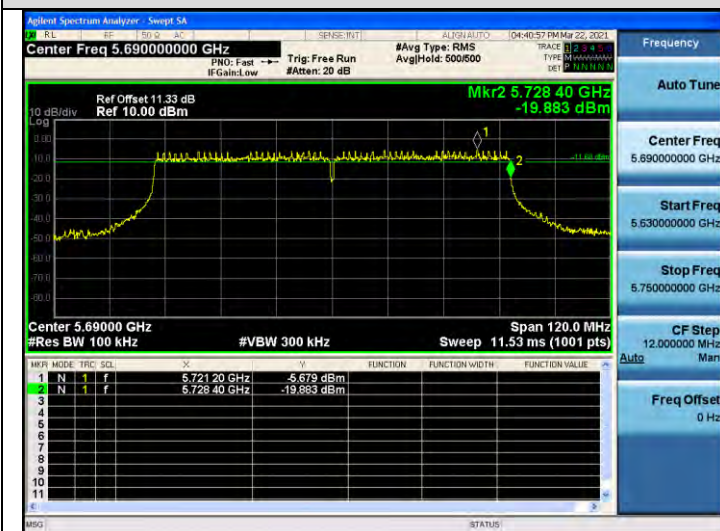
802.11n_HT40 CH.142



802.11ac_VHT40 CH.142



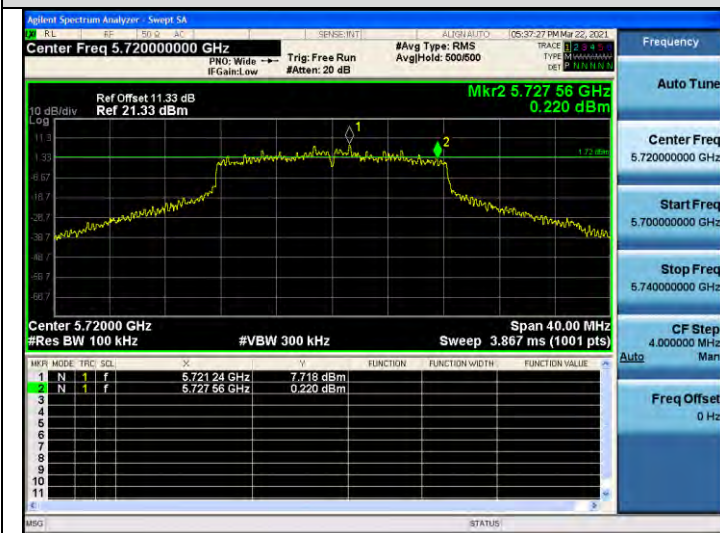
802.11ac_VHT80 CH.138



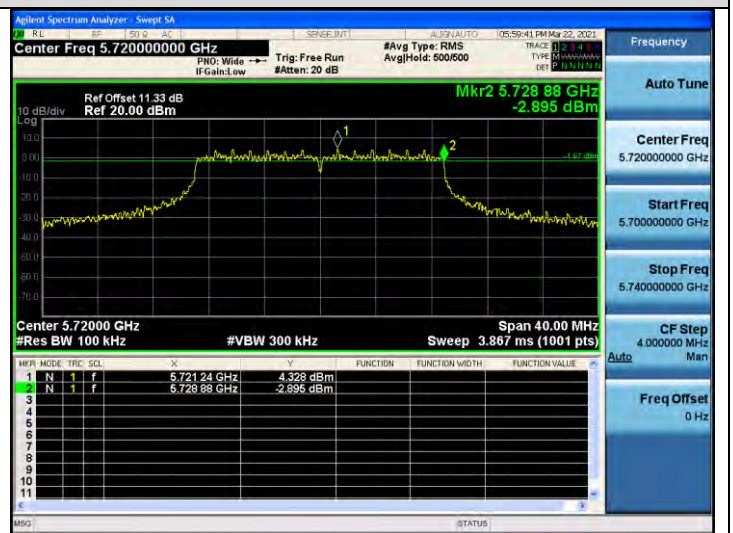
[Ant.2]

☐ Test Plots(UNII 3 Band 6dB Bandwidth)

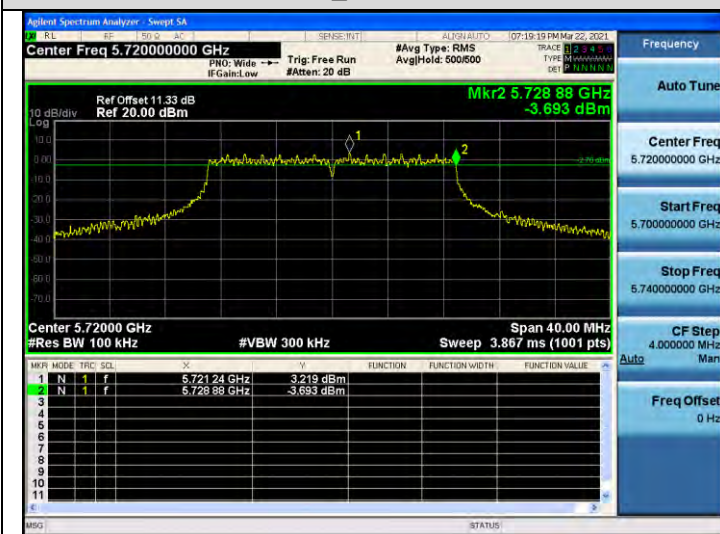
802.11a CH.144



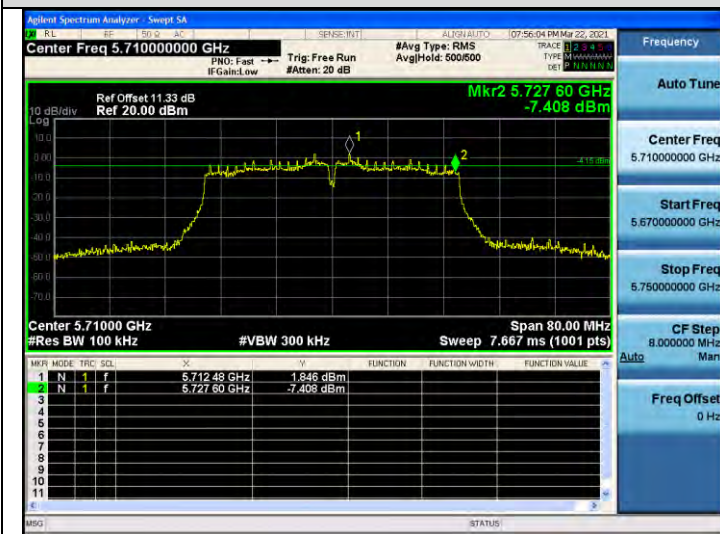
802.11n_HT20 CH.144



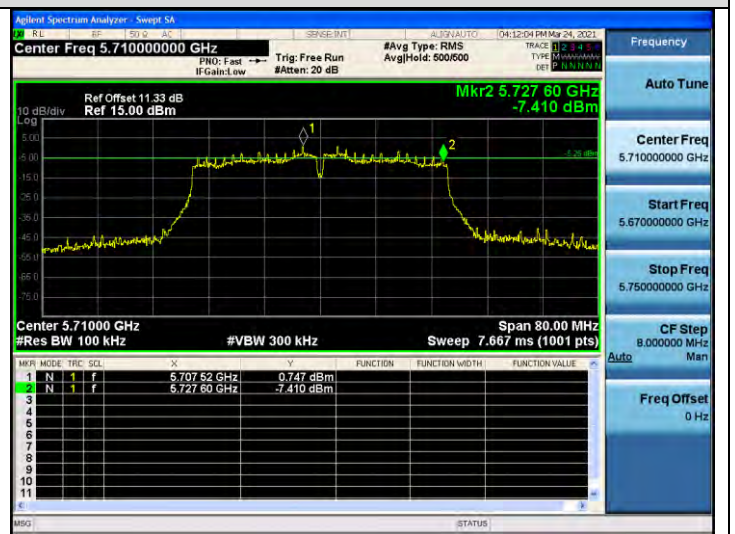
802.11ac_VHT20 CH.144



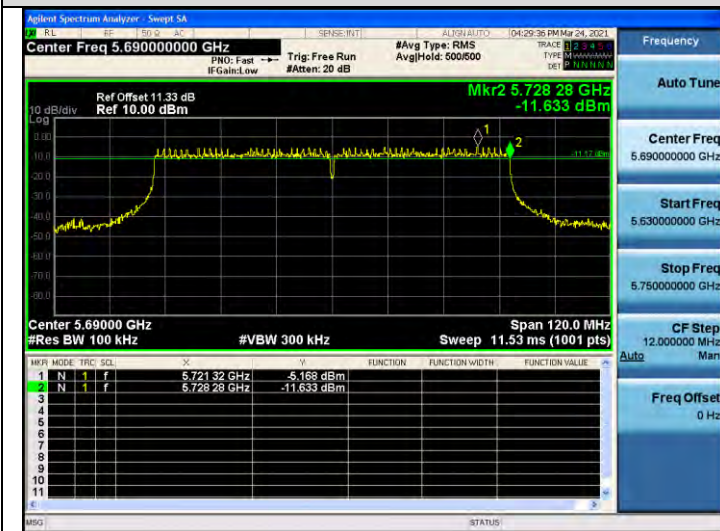
802.11n_HT40 CH.142



802.11ac_VHT40 CH.142



802.11ac_VHT80 CH.138



10.7.3 Output Power
[Ant.1]

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11a	5720	144	13.78	0.315	14.10	22.54	18 Mbps
802.11n(HT20)	(UNII 2C		12.62	0.335	12.95	22.80	MCS2
802.11ac(VHT20)	Band)		10.90	0.763	11.66	22.91	MCS6
802.11a	5720	144	5.61	0.315	5.93	30.00	18 Mbps
802.11n(HT20)	(UNII 3		4.93	0.335	5.26	30.00	MCS2
802.11ac(VHT20)	Band)		5.49	0.763	6.25	30.00	MCS6

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11n(HT40)	5710	142	11.22	0.591	11.81	23.98	MCS2
802.11ac(VHT40)	(UNII 2C Band)		10.28	0.580	10.86	23.98	MCS2
802.11n(HT40)	5710	142	-1.15	0.591	-0.56	30.00	MCS2
802.11ac(VHT40)	(UNII 3 Band)		-2.12	0.580	-1.54	30.00	MCS2

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	9.37	1.627	11.00	23.98	MCS6
	5690 (UNII 3 Band)	138	-3.44	1.627	-1.81	30.00	MCS6

[Ant.2]

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11a	5720	144	15.05	0.315	15.36	22.70	18 Mbps
802.11n(HT20)	(UNII 2C		13.49	0.335	13.82	23.00	MCS2
802.11ac(VHT20)	Band)		12.42	0.763	13.18	22.96	MCS6
802.11a	5720	144	6.76	0.315	7.07	30.00	18 Mbps
802.11n(HT20)	(UNII 3		7.91	0.335	8.24	30.00	MCS2
802.11ac(VHT20)	Band)		5.20	0.763	5.96	30.00	MCS6

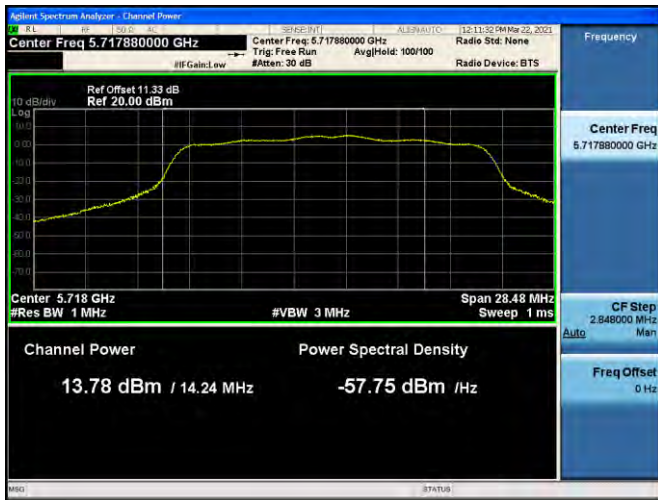
Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11n(HT40)	5710	142	12.48	0.591	13.07	23.98	MCS2
802.11ac(VHT40)	(UNII 2C Band)		11.46	0.580	12.04	23.98	MCS2
802.11n(HT40)	5710	142	-0.06	0.591	0.54	30.00	MCS2
802.11ac(VHT40)	(UNII 3 Band)		-1.07	0.580	-0.49	30.00	MCS2

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11ac(VHT80)	5690	138	10.09	1.627	11.72	23.98	MCS6
	(UNII 2C Band)						
	5690	138	-2.96	1.627	-1.34	30.00	MCS6
	(UNII 3 Band)						

[Ant.1]

☑ Test Plots

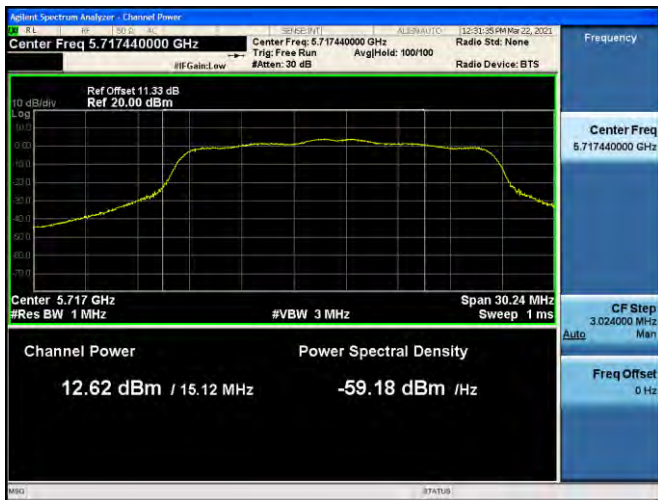
802.11a UNII 2C Band



802.11a UNII 3 Band



802.11n(HT20) UNII 2C Band



802.11n(HT20) UNII 3 Band



802.11ac(VHT20) UNII 2C Band



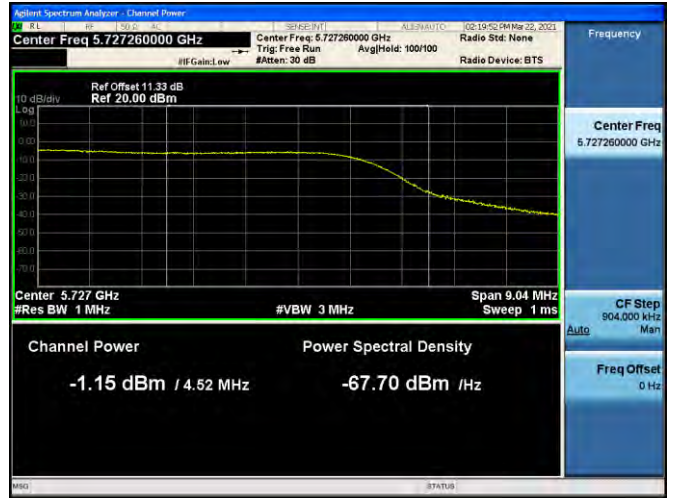
802.11ac(VHT20) UNII 3 Band



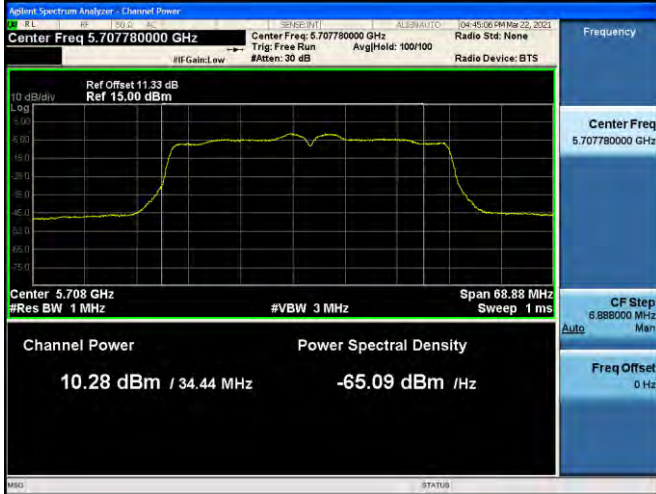
802.11n(HT40) UNII 2C Band



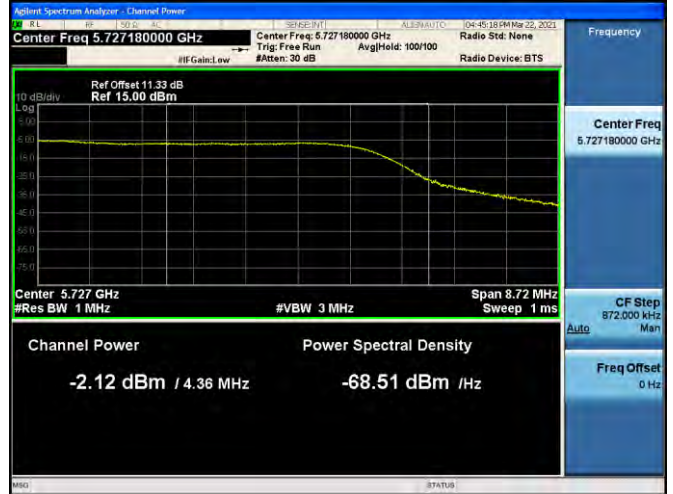
802.11n(HT40) UNII 3 Band



802.11ac(VHT40) UNII 2C Band



802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



[Ant.2]

☑ Test Plots

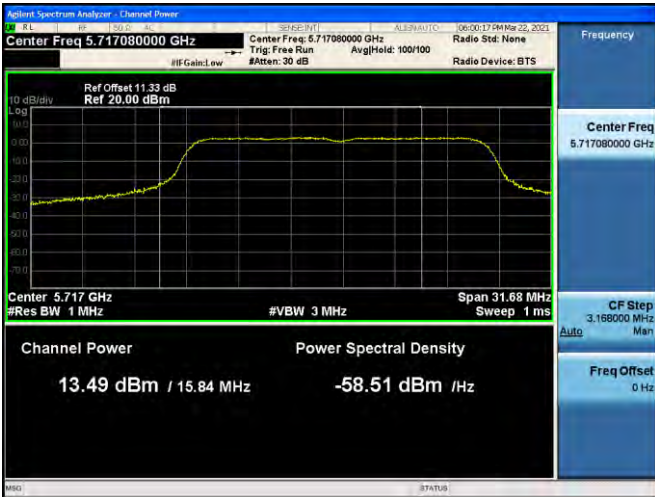
802.11a UNII 2C Band



802.11a UNII 3 Band



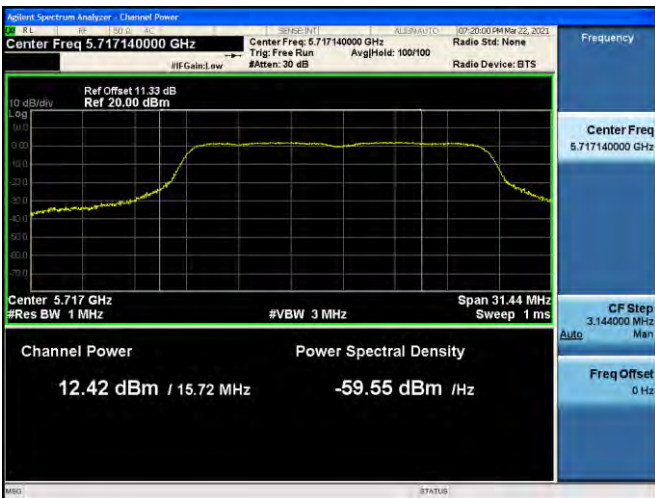
802.11n(HT20) UNII 2C Band



802.11n(HT20) UNII 3 Band



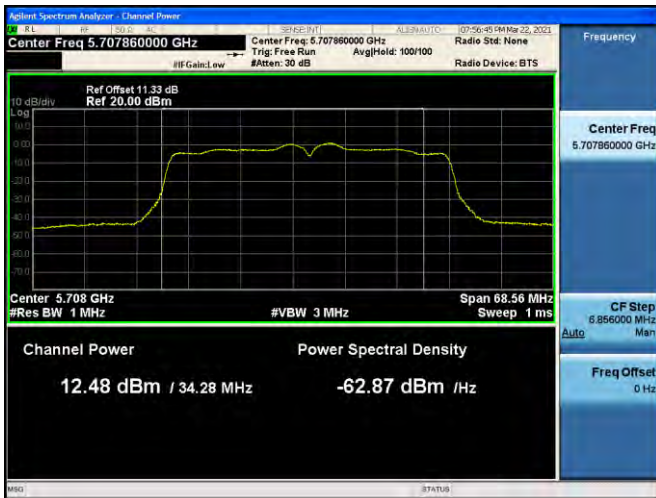
802.11ac(VHT20) UNII 2C Band



802.11ac(VHT20) UNII 3 Band



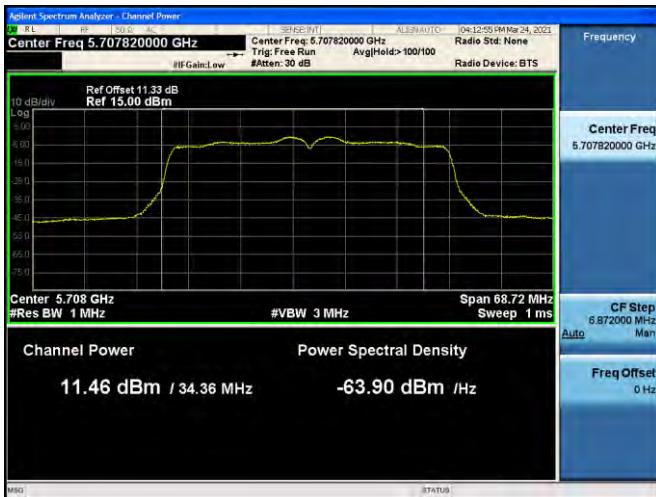
802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



802.11ac(VHT40) UNII 2C Band



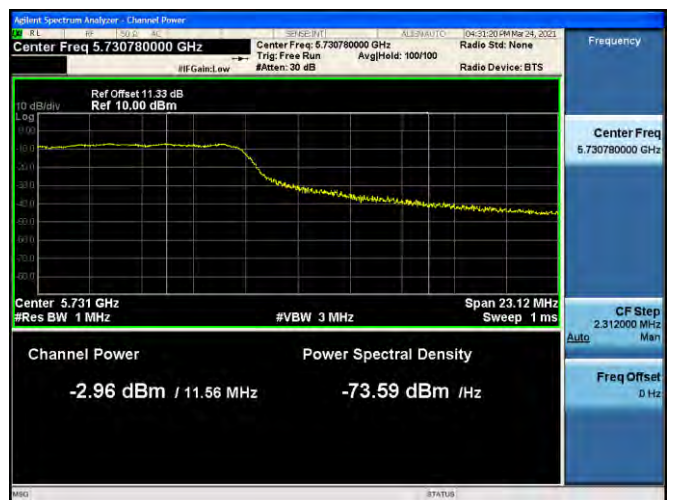
802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



10.7.4 Power Spectral Density

[Ant.1]

Mode	Frequency [MHz]	Channel	Measured Density (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)	Limit (dBm)	Worstcase Datarate
802.11a	5720	144	5.308	0.315	5.623	11dBm/ MHz	18 Mbps
802.11n(HT20)	(UNII 2C		4.077	0.335	4.412		MCS2
802.11ac(VHT20)	Band)		0.757	0.763	1.520		MCS6
802.11a	5720	144	-0.271	0.315	0.044	30 dB/ 500kHz	18 Mbps
802.11n(HT20)	(UNII 3 Band)		-2.025	0.335	-1.690		MCS2
802.11ac(VHT20)			-2.181	0.763	-1.418		MCS6

Mode	Frequency [MHz]	Channel	Measured Density (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)	Limit (dBm)	Worstcase Datarate
802.11n(HT40)	5710	142	-0.112	0.591	0.479	11dBm/ MHz	MCS2
802.11ac(VHT40)	(UNII 2C Band)		-1.527	0.580	-0.947		MCS2
802.11n(HT40)	5710	142	-8.078	0.591	-7.487	30 dB/ 500kHz	MCS2
802.11ac(VHT40)	(UNII 3 Band)		-9.400	0.580	-8.820		MCS2

Mode	Frequency [MHz]	Channel	Measured Density (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)	Limit (dBm)	Worstcase Datarate
802.11ac(VHT80)	5690	138	-7.279	1.627	-5.652	11dBm/ MHz	MCS6
	5690	138	-10.004	1.627	-8.377	30 dBm/ 500kHz	MCS6

[Ant.2]

Mode	Frequency [MHz]	Channel	Measured Density (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)	Limit (dBm)	Worstcase Datarate
802.11a	5720	144	6.912	0.315	7.227	11dBm/ MHz	18 Mbps
802.11n(HT20)	(UNII 2C		3.057	0.335	3.392		MCS2
802.11ac(VHT20)	Band)		2.165	0.763	2.928		MCS6
802.11a	5720 (UNII 3 Band)	144	0.951	0.315	1.266	30 dB/ 500kHz	18 Mbps
802.11n(HT20)			0.387	0.335	0.722		MCS2
802.11ac(VHT20)			-0.542	0.763	0.221		MCS6

Mode	Frequency [MHz]	Channel	Measured Density (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)	Limit (dBm)	Worstcase Datarate
802.11n(HT40)	5710	142	0.761	0.591	1.352	11dBm/ MHz	MCS2
802.11ac(VHT40)	(UNII 2C Band)		-0.197	0.580	0.383		MCS2
802.11n(HT40)	5710	142	-6.771	0.591	-6.180	30 dB/ 500kHz	MCS2
802.11ac(VHT40)	(UNII 3 Band)		-8.218	0.580	-7.638		MCS2

Mode	Frequency [MHz]	Channel	Measured Density (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)	Limit (dBm)	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	-6.910	1.627	-5.283	11dBm/ MHz	MCS6
	5690 (UNII 3 Band)	138	-9.250	1.627	-7.623	30 dBm/ 500kHz	MCS6

[Ant.1]
☑ Test Plots

802.11a UNII 2C Band



802.11a UNII 3 Band



802.11n(HT20) UNII 2C Band



802.11n(HT20) UNII 3 Band



802.11ac(VHT20) UNII 2C Band



802.11ac(VHT20) UNII 3 Band



802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



802.11ac(VHT40) UNII 2C Band



802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



[Ant.2]

Test Plots

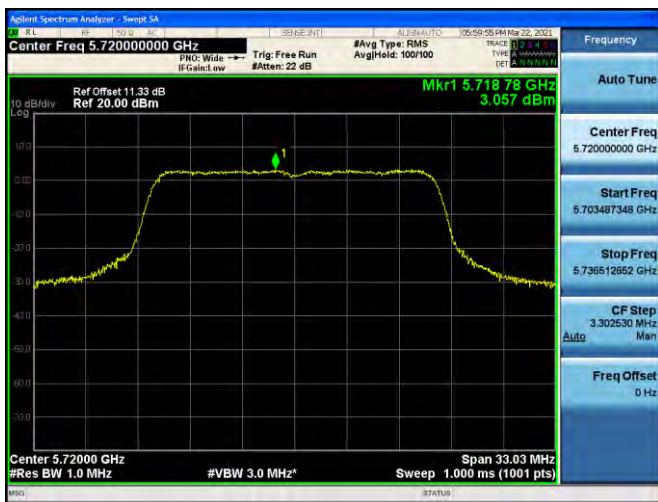
802.11a UNII 2C Band



802.11a UNII 3 Band



802.11n(HT20) UNII 2C Band



802.11n(HT20) UNII 3 Band



802.11ac(VHT20) UNII 2C Band



802.11ac(VHT20) UNII 3 Band



802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



802.11ac(VHT40) UNII 2C Band



802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



10.8 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30MHz

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB
No Critical peaks found							

Note:

1. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40\log(\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dBuV) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB
No Critical peaks found							

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode

[Ant.1&Ant.2_MIMO(CDD)]

Frequency Range : Above 1 GHz

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	52.48	0.24	V	52.72	68.20	15.48	PK
15540	48.94	2.16	V	51.10	73.98	22.88	PK
15540	36.07	2.16	V	38.23	53.98	15.75	AV
10360	52.12	0.24	H	52.36	68.20	15.84	PK
15540	48.88	2.16	H	51.04	73.98	22.94	PK
15540	35.98	2.16	H	38.14	53.98	15.84	AV

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	51.11	0.74	V	51.85	68.20	16.35	PK
15600	49.91	1.81	V	51.72	73.98	22.26	PK
15600	36.61	1.81	V	38.42	53.98	15.56	AV
10400	50.98	0.74	H	51.72	68.20	16.48	PK
15600	49.82	1.81	H	51.63	73.98	22.35	PK
15600	36.55	1.81	H	38.36	53.98	15.62	AV

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	52.58	-0.25	V	52.33	68.20	15.87	PK
15720	51.85	1.16	V	53.01	73.98	20.97	PK
15720	36.85	1.16	V	38.01	53.98	15.97	AV
10480	51.95	-0.25	H	51.70	68.20	16.50	PK
15720	52.12	1.16	H	53.28	73.98	20.70	PK
15720	37.12	1.16	H	38.28	53.98	15.70	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	53.15	-0.20	V	52.95	68.20	15.25	PK
15780	51.16	1.20	V	52.36	73.98	21.62	PK
15780	37.19	1.20	V	38.39	53.98	15.59	AV
10520	52.98	-0.20	H	52.78	68.20	15.42	PK
15780	49.85	1.20	H	51.05	73.98	22.93	PK
15780	36.98	1.20	H	38.18	53.98	15.80	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	52.33	0.10	V	52.43	73.98	21.55	PK
10600	39.94	0.10	V	40.04	53.98	13.94	AV
15900	53.88	1.04	V	54.92	73.98	19.06	PK
15900	39.26	1.04	V	40.30	53.98	13.68	AV
10600	51.98	0.10	H	52.08	73.98	21.90	PK
10600	39.85	0.10	H	39.95	53.98	14.03	AV
15900	53.45	1.04	H	54.49	73.98	19.49	PK
15900	39.12	1.04	H	40.16	53.98	13.82	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	52.61	0.35	V	52.96	73.98	21.02	PK
10640	40.06	0.35	V	40.41	53.98	13.57	AV
15960	53.98	1.12	V	55.10	73.98	18.88	PK
15960	39.75	1.12	V	40.87	53.98	13.11	AV
10640	52.42	0.35	H	52.77	73.98	21.21	PK
10640	39.85	0.35	H	40.20	53.98	13.78	AV
15960	54.25	1.12	H	55.37	73.98	18.61	PK
15960	39.92	1.12	H	41.04	53.98	12.94	AV

Band : UNII 2C
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5500 MHz
 Channel No. 100 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	53.21	0.40	V	53.61	73.98	20.37	PK
11000	39.26	0.40	V	39.66	53.98	14.32	AV
16500	51.55	1.16	V	52.71	68.20	15.49	PK
11000	52.98	0.40	H	53.38	73.98	20.60	PK
11000	38.85	0.40	H	39.25	53.98	14.73	AV
16500	51.89	1.16	H	53.05	68.20	15.15	PK

Band : UNII 2C
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5600 MHz
 Channel No. 120 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11200	55.51	-0.40	V	55.11	73.98	18.87	PK
11200	40.76	-0.40	V	40.36	53.98	13.62	AV
16800	55.98	0.65	V	56.63	68.20	11.57	PK
11200	55.12	-0.40	H	54.72	73.98	19.26	PK
11200	39.85	-0.40	H	39.45	53.98	14.53	AV
16800	56.21	0.65	H	56.86	68.20	11.34	PK

Band : UNII 2C
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5720 MHz
 Channel No. 144 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	52.13	0.14	V	52.27	73.98	21.71	PK
11440	39.15	0.14	V	39.29	53.98	14.69	AV
17160	55.35	1.35	V	56.70	68.20	11.50	PK
11440	51.89	0.14	H	52.03	73.98	21.95	PK
11440	38.95	0.14	H	39.09	53.98	14.89	AV
17160	55.76	1.35	H	57.11	68.20	11.09	PK

Band : UNII 3
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5745MHz
 Channel No. 149 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	51.22	-0.14	V	51.08	73.98	22.90	PK
11490	38.42	-0.14	V	38.28	53.98	15.70	AV
17235	53.95	1.61	V	55.56	68.20	12.64	PK
11490	49.85	-0.14	H	49.71	73.98	24.27	PK
11490	38.11	-0.14	H	37.97	53.98	16.01	AV
17235	54.31	1.61	H	55.92	68.20	12.28	PK

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	51.82	0.07	V	51.89	73.98	22.09	PK
11570	38.82	0.07	V	38.89	53.98	15.09	AV
17355	54.34	1.69	V	56.03	68.20	12.17	PK
11570	51.35	0.07	H	51.42	73.98	22.56	PK
11570	38.52	0.07	H	38.59	53.98	15.39	AV
17355	54.78	1.69	H	56.47	68.20	11.73	PK

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	54.02	-0.70	V	53.32	73.98	20.66	PK
11650	41.22	-0.70	V	40.52	53.98	13.46	AV
17475	53.22	2.65	V	55.87	68.20	12.33	PK
11650	53.78	-0.70	H	53.08	73.98	20.90	PK
11650	41.02	-0.70	H	40.32	53.98	13.66	AV
17475	53.37	2.65	H	56.02	68.20	12.18	PK

Note:

All Modes of operation were investigated and the worst case configuration results are reported.

[Worst case]

UNII 1, UNII 2A, UNII 2C, UNII 3 : 802.11a_6Mbps

[DBS Mode]

WLAN/BT Ant : 802.11a ch.144 & Bluetooth Ch. 0 (GFSK)

Operation Mode:	802.11a & GFSK
Transfer Rate:	6 Mbps & 1 Mbps
Operating Frequency	5720& 2402 MHz
Channel No.	144 Ch & 0 Ch

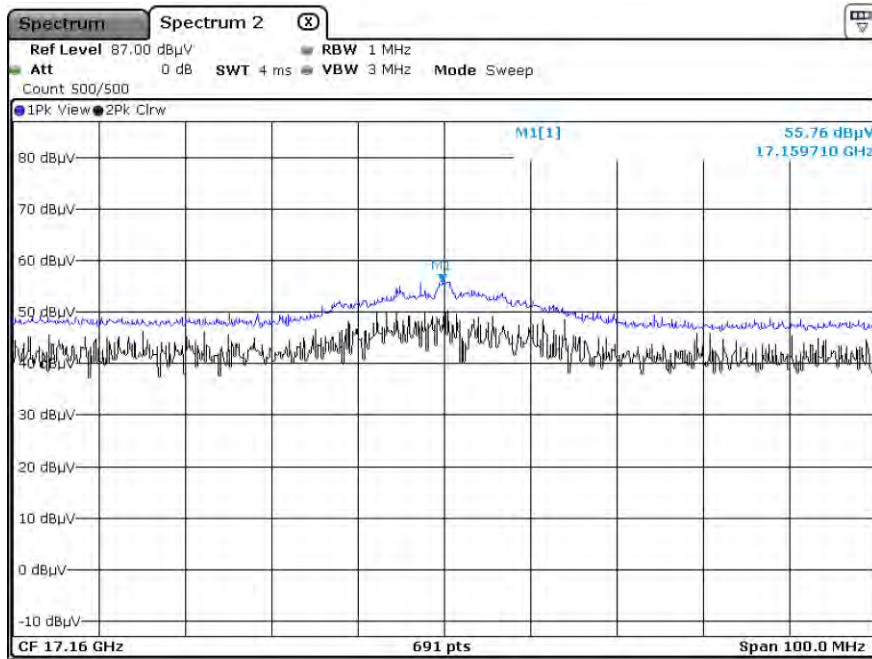
Frequency [MHz]	Reading [dBuV]	A.F+C.L -A.G+D.F [dB]	Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	52.23	0.14	V	52.37	73.98	21.61	PK
11440	39.01	0.14	V	39.15	53.98	14.83	AV
17160	55.45	1.35	V	56.80	68.20	11.40	PK
11440	51.72	0.14	H	51.86	73.98	22.12	PK
11440	38.92	0.14	H	39.06	53.98	14.92	AV
17160	55.67	1.35	H	57.02	68.20	11.18	PK

Note : Bluetooth DBS Data refer to BT Test Report.

[Ant.1&Ant.2_MIMO(CDD)]

▣ Test Plots

Peak Reading (802.11a, Ch.144 3rd Harmonic, Z-H_180 degree)



Note:

Only the worst case plots for Radiated Spurious Emissions.

10.9 RADIATED RESTRICTED BAND EDGE

[Ant.1&Ant.2_MIMO(CDD)]

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	51.02	6.72	H	57.74	73.98	16.24	PK
5150	38.85	6.72	H	45.57	53.98	8.41	AV
5150	51.27	6.72	V	57.99	73.98	15.99	PK
5150	39.15	6.72	V	45.87	53.98	8.11	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	49.20	7.24	H	56.44	73.98	17.54	PK
5350	43.99	7.24	H	51.23	53.98	2.75	AV
5350	48.85	7.24	V	56.09	73.98	17.89	PK
5350	42.85	7.24	V	50.09	53.98	3.89	AV

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	53.66	7.90	H	61.56	73.98	12.42	PK
5460	34.69	7.90	H	42.59	53.98	11.39	AV
5470	57.23	8.24	H	65.47	68.20	2.73	PK
5460	53.22	7.90	V	61.12	73.98	12.86	PK
5460	34.12	7.90	V	42.02	53.98	11.96	AV
5470	56.95	8.24	V	65.19	68.20	3.01	PK

Band : UNII 1
 Operation Mode: 802.11 n_HT20
 Transfer MCS Index: 0
 Operating Frequency 5180 MHz
 Channel No. 36 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	52.25	6.72	H	58.97	73.98	15.01	PK
5150	40.12	6.72	H	46.84	53.98	7.14	AV
5150	52.72	6.72	V	59.44	73.98	14.54	PK
5150	40.62	6.72	V	47.34	53.98	6.64	AV

Band : UNII 2A
 Operation Mode: 802.11 n_HT20
 Transfer MCS Index: 0
 Operating Frequency 5320 MHz
 Channel No. 64 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	49.09	7.24	H	56.33	73.98	17.65	PK
5350	43.20	7.24	H	50.44	53.98	3.54	AV
5350	48.85	7.24	V	56.09	73.98	17.89	PK
5350	42.52	7.24	V	49.76	53.98	4.22	AV

Band :	UNII 2C
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	55.36	7.90	H	63.26	73.98	10.72	PK
5460	36.54	7.90	H	44.44	53.98	9.54	AV
5470	57.31	8.24	H	65.55	68.20	2.65	PK
5460	55.15	7.90	V	63.05	73.98	10.93	PK
5460	36.12	7.90	V	44.02	53.98	9.96	AV
5470	56.85	8.24	V	65.09	68.20	3.11	PK

Band : UNII 1

Operation Mode: 802.11 ac_VHT20

Transfer MCS Index: 0

Operating Frequency 5180 MHz

Channel No. 36 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	54.51	6.72	H	61.23	73.98	12.75	PK
5150	36.98	6.72	H	43.70	53.98	10.28	AV
5150	54.79	6.72	V	61.51	73.98	12.47	PK
5150	37.14	6.72	V	43.86	53.98	10.12	AV

Band : UNII 2A

Operation Mode: 802.11 ac_VHT20

Transfer MCS Index: 0

Operating Frequency 5320 MHz

Channel No. 64 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	48.27	7.24	H	55.51	73.98	18.47	PK
5350	43.33	7.24	H	50.57	53.98	3.41	AV
5350	47.99	7.24	V	55.23	73.98	18.75	PK
5350	42.98	7.24	V	50.22	53.98	3.76	AV

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	54.31	7.90	H	62.21	73.98	11.77	PK
5460	34.94	7.90	H	42.84	53.98	11.14	AV
5470	57.15	8.24	H	65.39	68.20	2.81	PK
5460	54.12	7.90	V	62.02	73.98	11.96	PK
5460	34.62	7.90	V	42.52	53.98	11.46	AV
5470	56.85	8.24	V	65.09	68.20	3.11	PK

Band : UNII 1
 Operation Mode: 802.11 n_HT40
 Transfer MCS Index: 0
 Operating Frequency 5190 MHz
 Channel No. 38 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	49.25	13.63	H	62.88	73.98	11.10	PK
5150	35.85	13.63	H	49.48	53.98	4.50	AV
5150	49.85	13.63	V	63.48	73.98	10.50	PK
5150	36.94	13.63	V	50.57	53.98	3.41	AV

Band : UNII 2A
 Operation Mode: 802.11 n_HT40
 Transfer MCS Index: 0
 Operating Frequency 5310 MHz
 Channel No. 62 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	45.76	14.13	H	59.89	73.98	14.09	PK
5350	36.72	14.13	H	50.85	53.98	3.13	AV
5350	45.32	14.13	V	59.45	73.98	14.53	PK
5350	36.12	14.13	V	50.25	53.98	3.73	AV

Band : UNII 2C
 Operation Mode: 802.11 n_HT40
 Transfer MCS Index: 0
 Operating Frequency 5510 MHz
 Channel No. 102 Ch

Frequency [MHz]	Reading DBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	46.79	14.77	H	61.56	73.98	12.42	PK
5460	32.47	14.77	H	47.24	53.98	6.74	AV
5470	49.01	15.12	H	64.13	68.20	4.07	PK
5460	46.52	14.77	V	61.29	73.98	12.69	PK
5460	32.12	14.77	V	46.89	53.98	7.09	AV
5470	48.85	15.12	V	63.97	68.20	4.23	PK

Band : UNII 1
 Operation Mode: 802.11 ac_VHT40
 Transfer MCS Index: 0
 Operating Frequency 5190 MHz
 Channel No. 38 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	48.85	13.63	H	62.48	73.98	11.50	PK
5150	35.92	13.63	H	49.55	53.98	4.43	AV
5150	49.22	13.63	V	62.85	73.98	11.13	PK
5150	36.84	13.63	V	50.47	53.98	3.51	AV

Band : UNII 2A
 Operation Mode: 802.11 ac_VHT40
 Transfer MCS Index: 0
 Operating Frequency 5310 MHz
 Channel No. 62 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	45.58	14.13	H	59.71	73.98	14.27	PK
5350	36.72	14.13	H	50.85	53.98	3.13	AV
5350	44.98	14.13	V	59.11	73.98	14.87	PK
5350	36.12	14.13	V	50.25	53.98	3.73	AV

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading DBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	46.86	14.77	H	61.63	73.98	12.35	PK
5460	32.65	14.77	H	47.42	53.98	6.56	AV
5470	48.32	15.12	H	63.44	68.20	4.76	PK
5460	46.35	14.77	V	61.12	73.98	12.86	PK
5460	32.12	14.77	V	46.89	53.98	7.09	AV
5470	47.86	15.12	V	62.98	68.20	5.22	PK

Band : UNII 1
 Operation Mode: 802.11 ac_VHT80
 Transfer MCS Index: 0
 Operating Frequency 5210 MHz
 Channel No. 42 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	47.85	13.63	H	61.48	73.98	12.50	PK
5150	35.95	13.63	H	49.58	53.98	4.40	AV
5150	48.58	13.63	V	62.21	73.98	11.77	PK
5150	36.09	13.63	V	49.72	53.98	4.26	AV

Band : UNII 2A
 Operation Mode: 802.11 ac_VHT80
 Transfer MCS Index: 0
 Operating Frequency 5290 MHz
 Channel No. 58 Ch

Frequency [MHz]	Reading dBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	47.81	14.13	H	61.94	73.98	12.04	PK
5350	37.09	14.13	H	51.22	53.98	2.76	AV
5350	47.23	14.13	V	61.36	73.98	12.62	PK
5350	36.81	14.13	V	50.94	53.98	3.04	AV

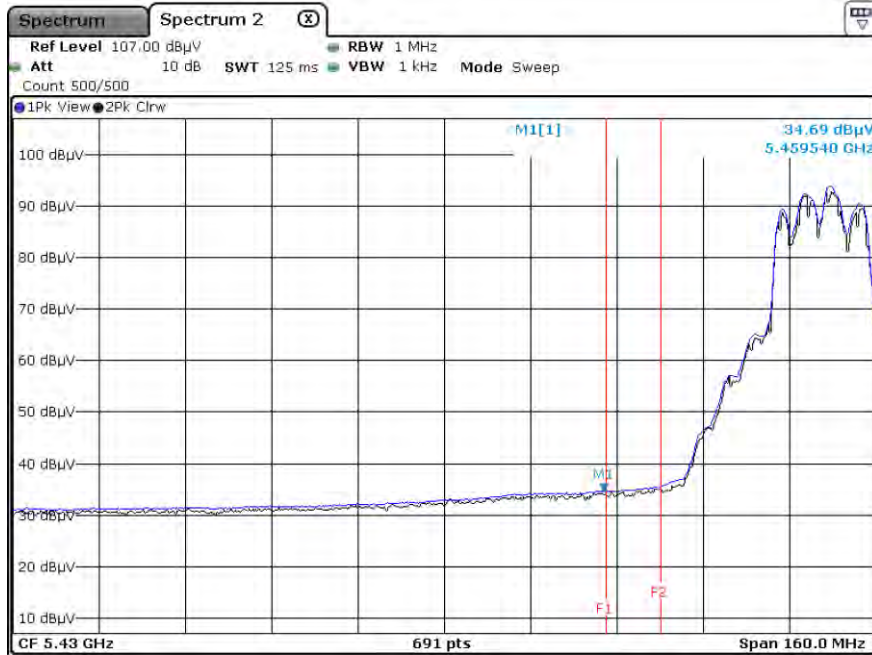
Band :	UNII 2C
Operation Mode:	802.11 ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5530 MHz
Channel No.	106 Ch

Frequency [MHz]	Reading DBuV	A.F+ C.L+ D.F-A.G + ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	45.71	14.77	H	60.48	73.98	13.50	PK
5460	34.92	14.77	H	49.69	53.98	4.29	AV
5470	48.33	15.12	H	63.45	68.20	4.75	PK
5460	45.12	14.77	V	59.89	73.98	14.09	PK
5460	34.52	14.77	V	49.29	53.98	4.69	AV
5470	48.11	15.12	V	63.23	68.20	4.97	PK

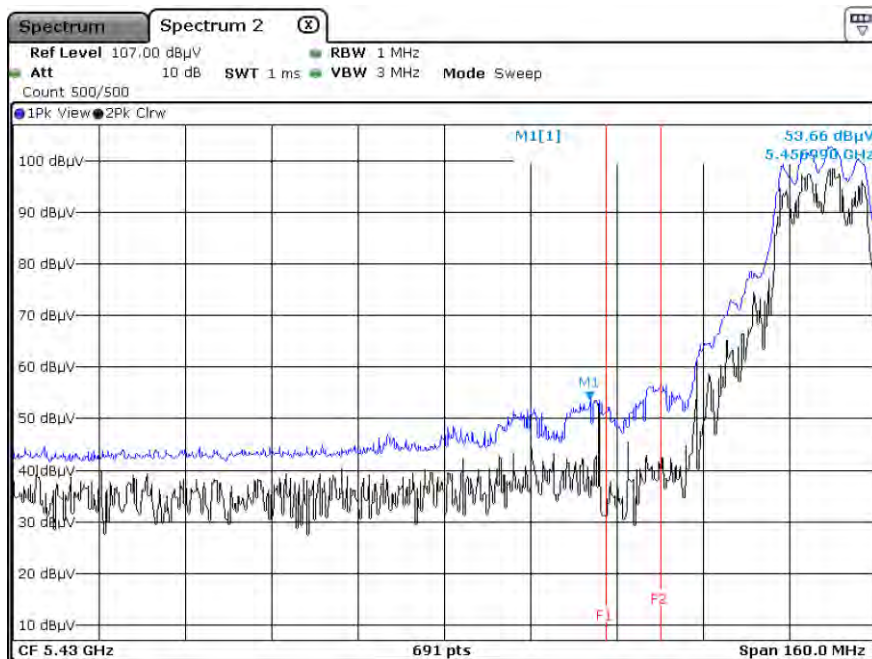
[Ant.1&Ant.2_MIMO(CDD)]

▣ Test Plots(UNII 1, 2A, 2C)

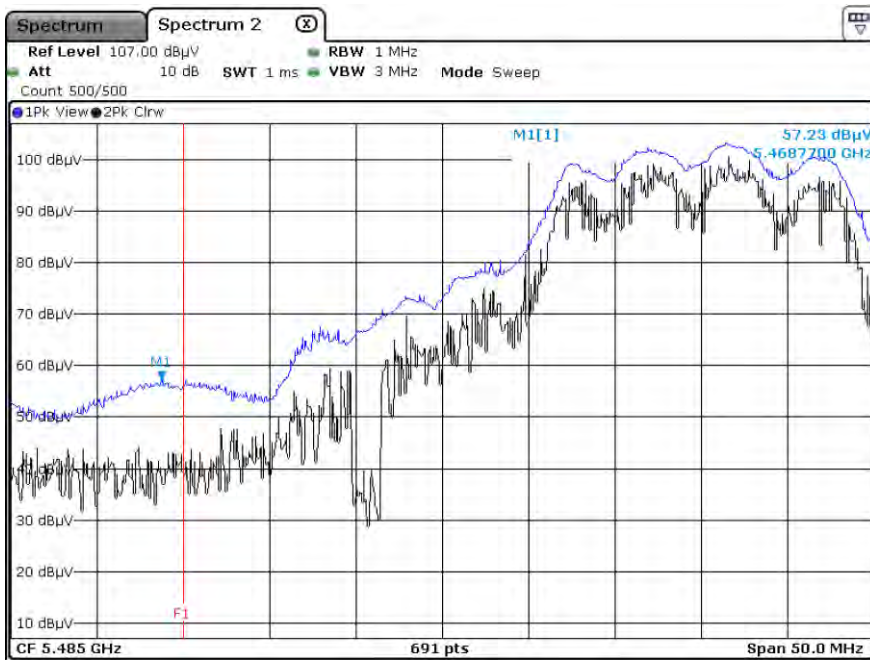
Average Reading (802.11 a_6 Mbps, Ch.100, Z-H_0 degree)



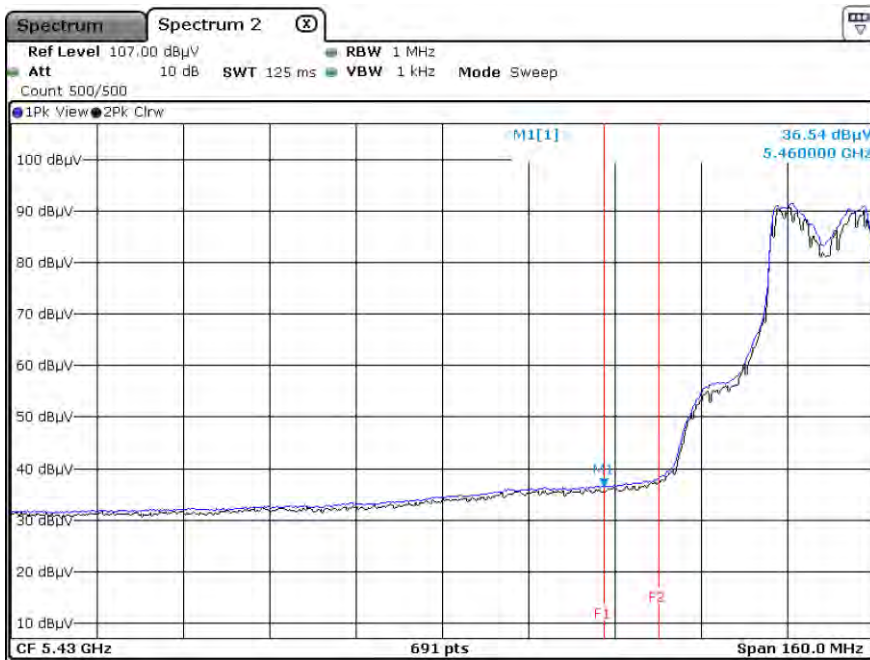
Peak Reading (802.11 a_6 Mbps, Ch.100, Z-H_0 degree)



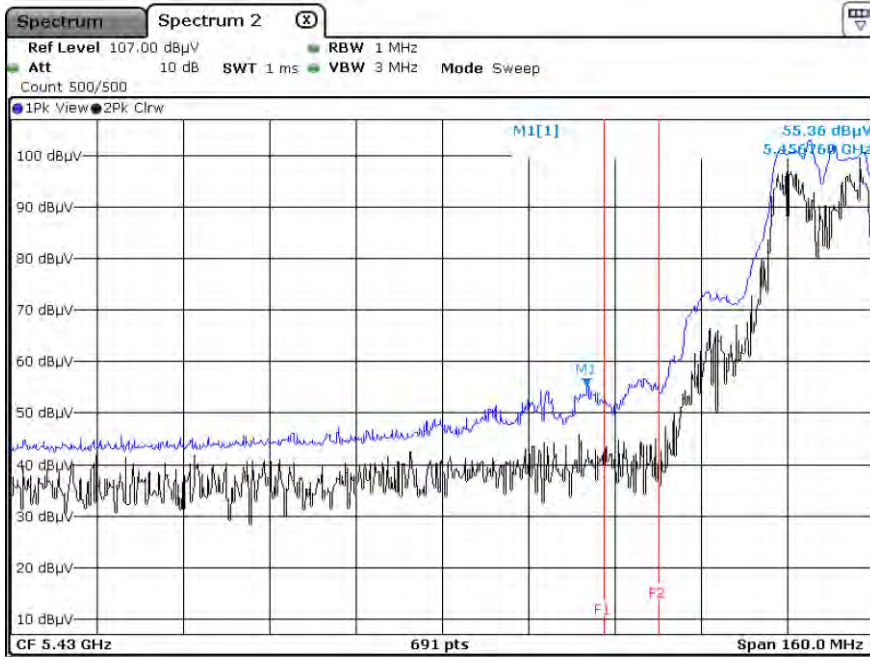
Peak Reading (802.11 a_6 Mbps, Ch.100, Z-H_0 degree)



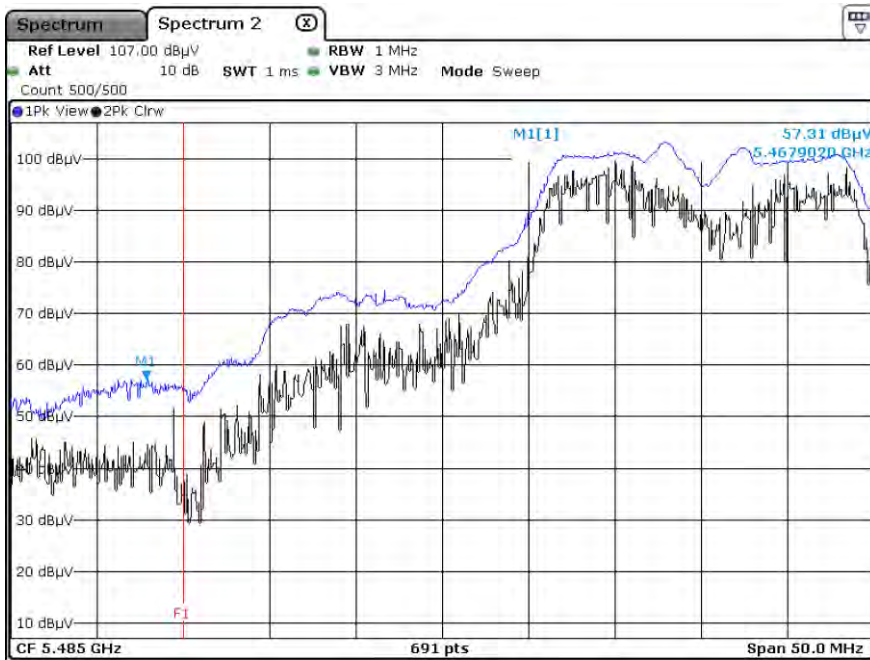
Average Reading (802.11 n(HT20)_MCS0, Ch.100, Z-H_0 degree)



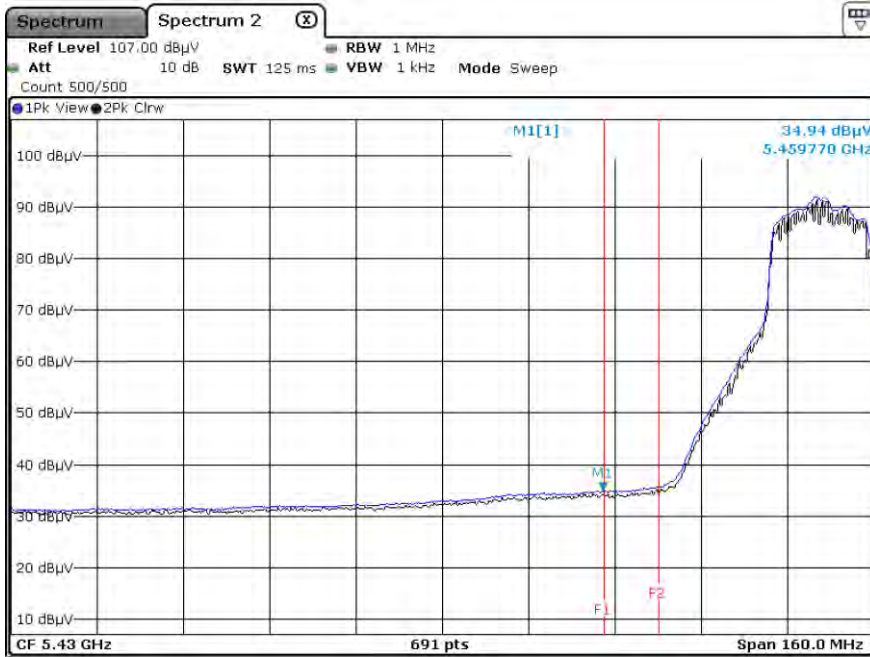
Peak Reading (802.11 n(HT20)_MCS0, Ch.100, Z-H_0 degree)



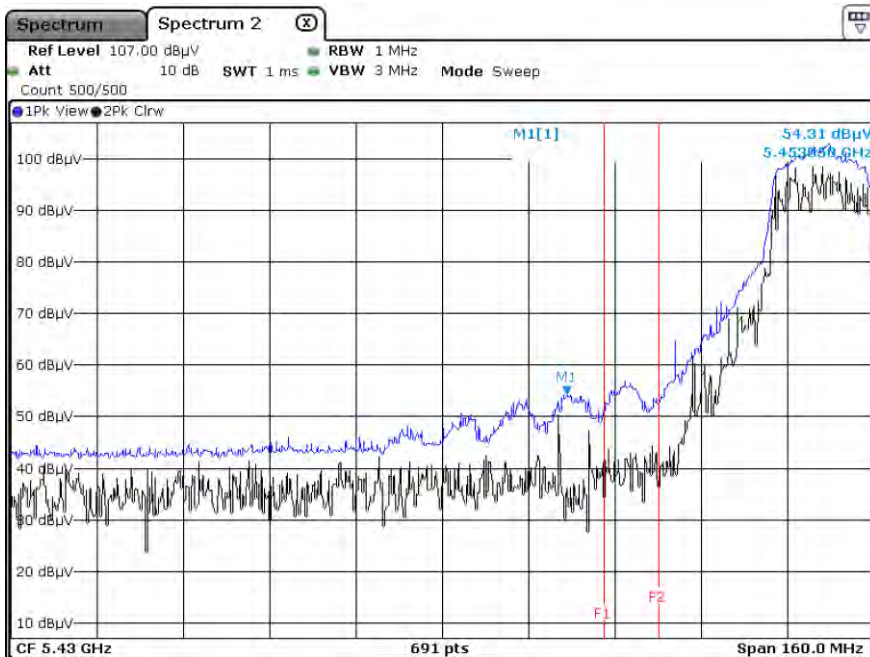
Peak Reading (802.11 n(HT20)_MCS0, Ch.100, Z-H_0 degree)



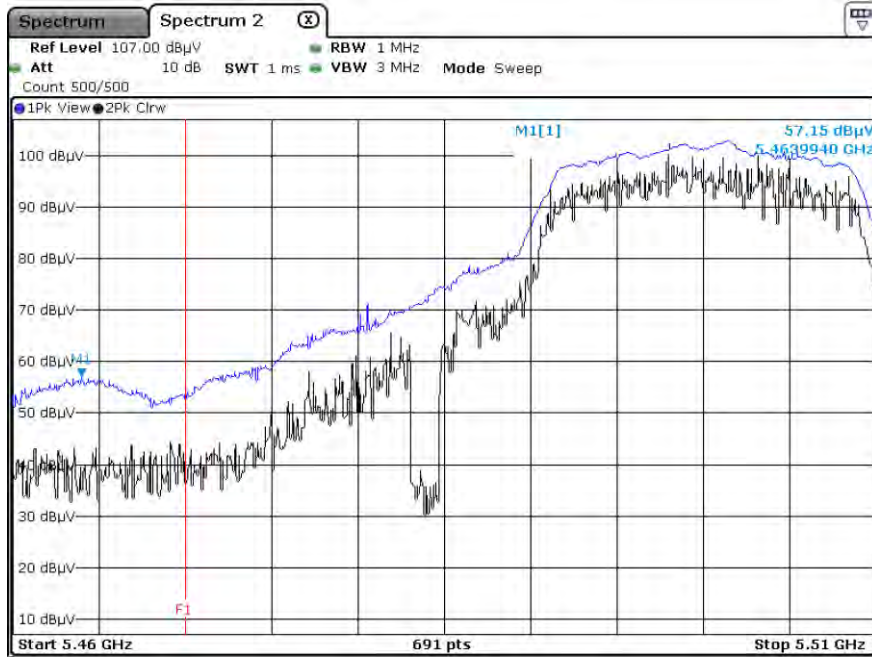
Average Reading (802.11 ac(VHT20)_MCS0, Ch.100, Z-H_0 degree)



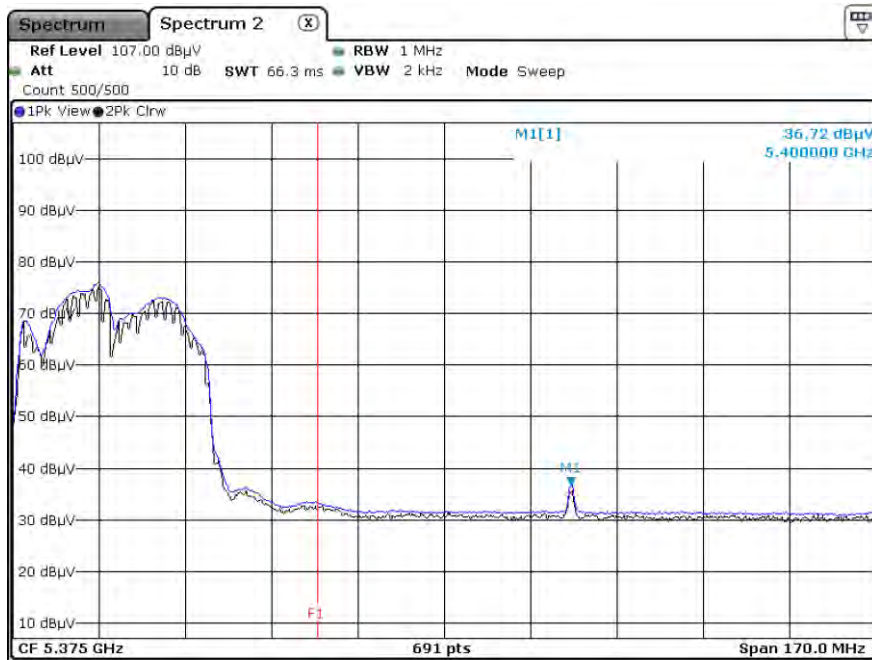
Peak Reading (802.11 ac(VHT20)_MCS0, Ch.100, Z-H_0 degree)



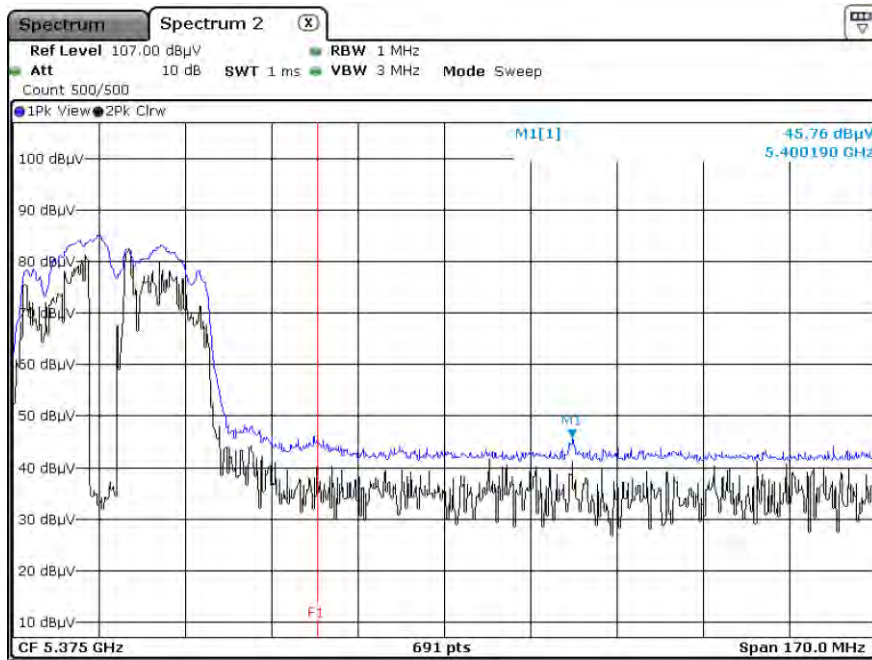
Peak Reading (802.11 ac(VHT20)_MCS0, Ch.100, Z-H_0 degree)



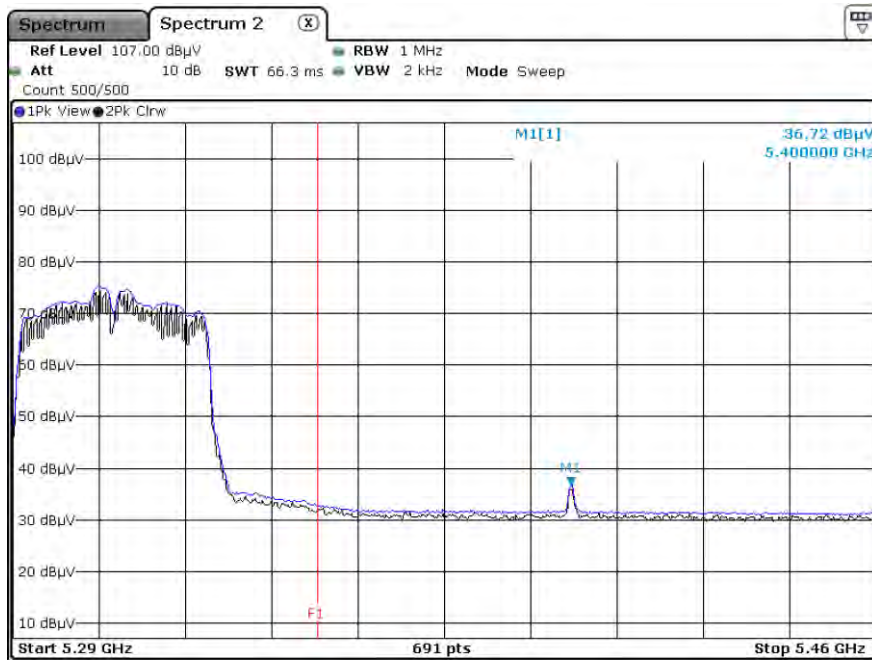
Average Reading (802.11 n(HT40)_MCS0, Ch.62, Z-H_180 degree)



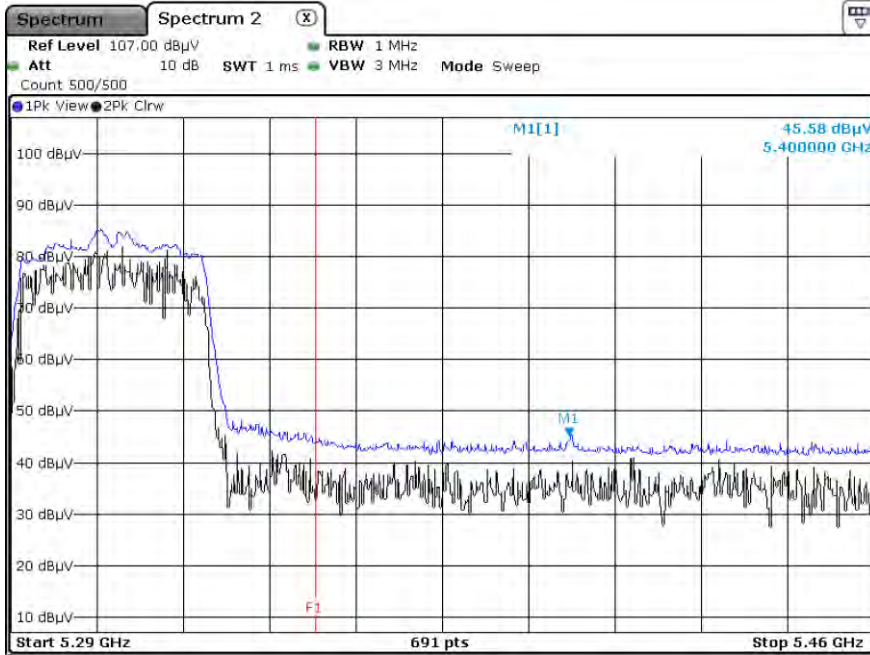
Peak Reading (802.11 n(HT40)_MCS0, Ch.62, Z-H_180 degree)



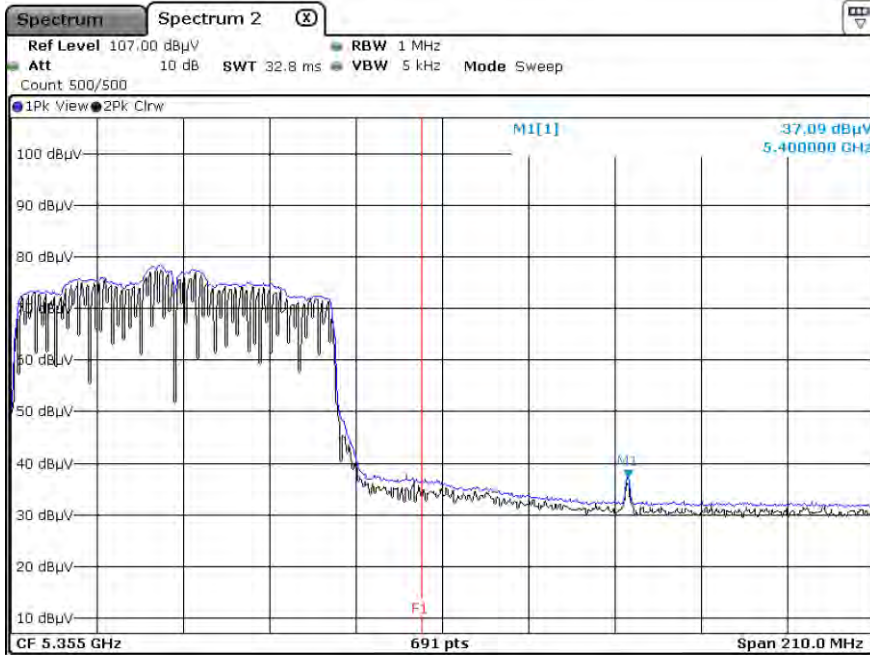
Average Reading (802.11 ac(VHT40)_MCS0, Ch.62, Z-H_180 degree)



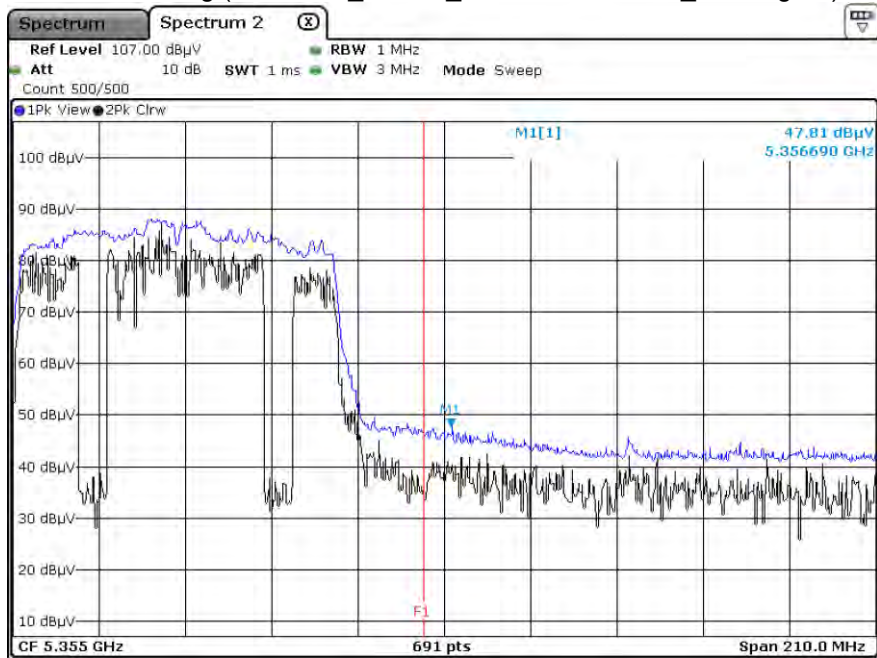
Peak Reading (802.11 ac(VHT40)_MCS0, Ch.62, Z-H_180 degree)



Average Reading (802.11 ac_VHT80_MCS0, Ch.58, Z-H_180 degree)



Peak Reading (802.11 ac_VHT80_MCS0, Ch.58, Z-H_180 degree)

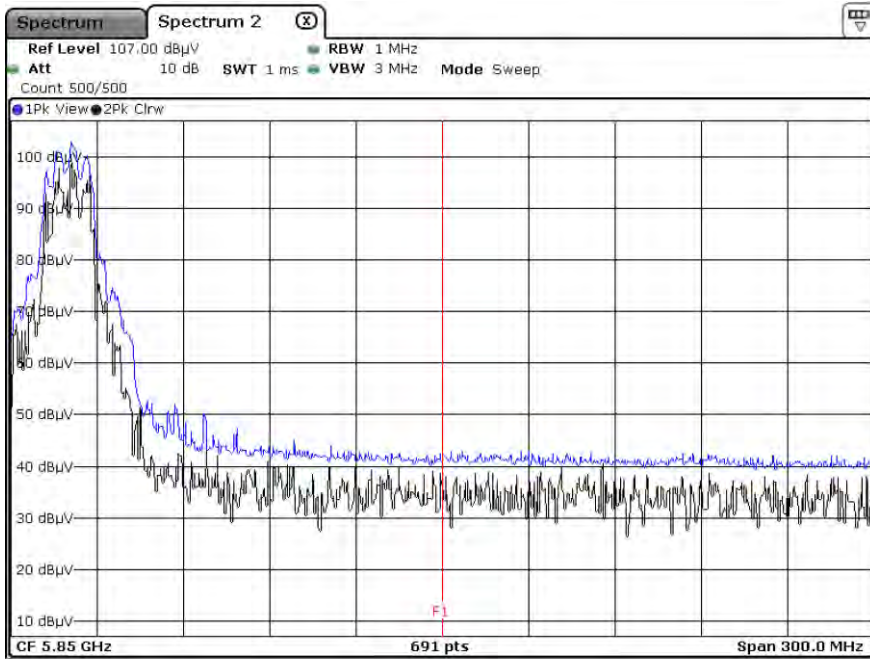


Note:

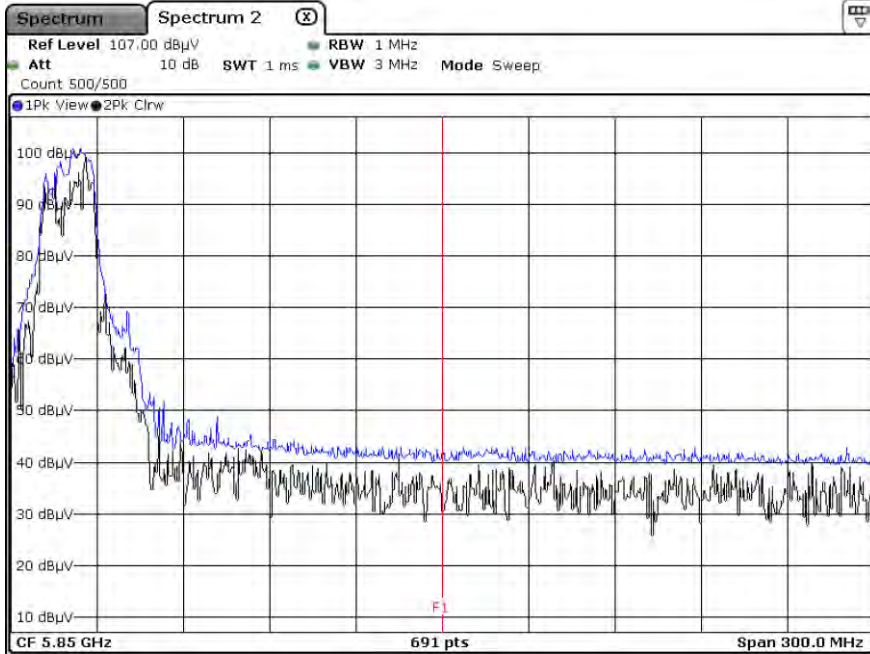
Only the worst case plots for Radiated Restricted Band Edge.

▣ Test Plots(Straddle Channel)

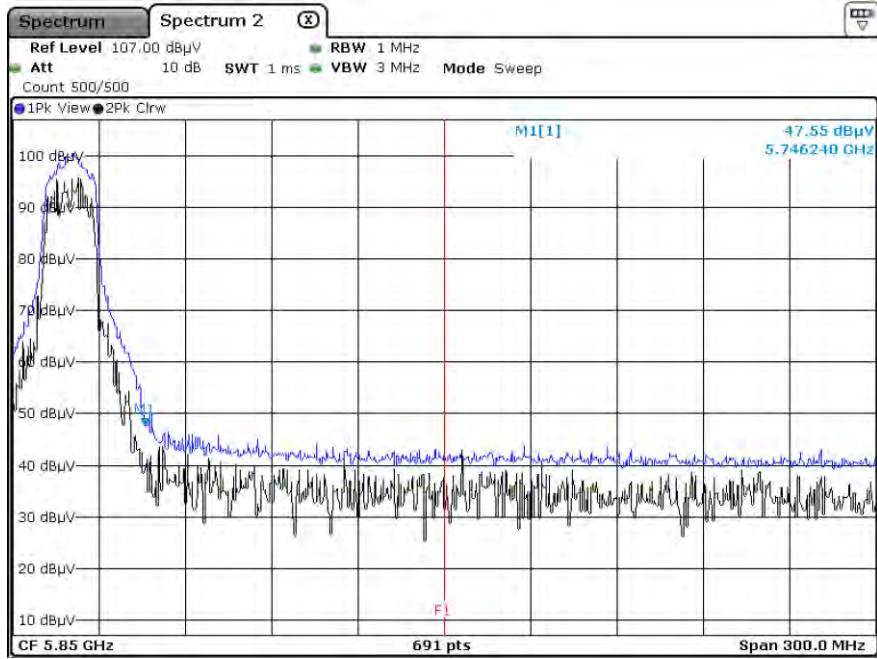
Peak Reading (802.11a, Ch.144, Z-H_0 degree)



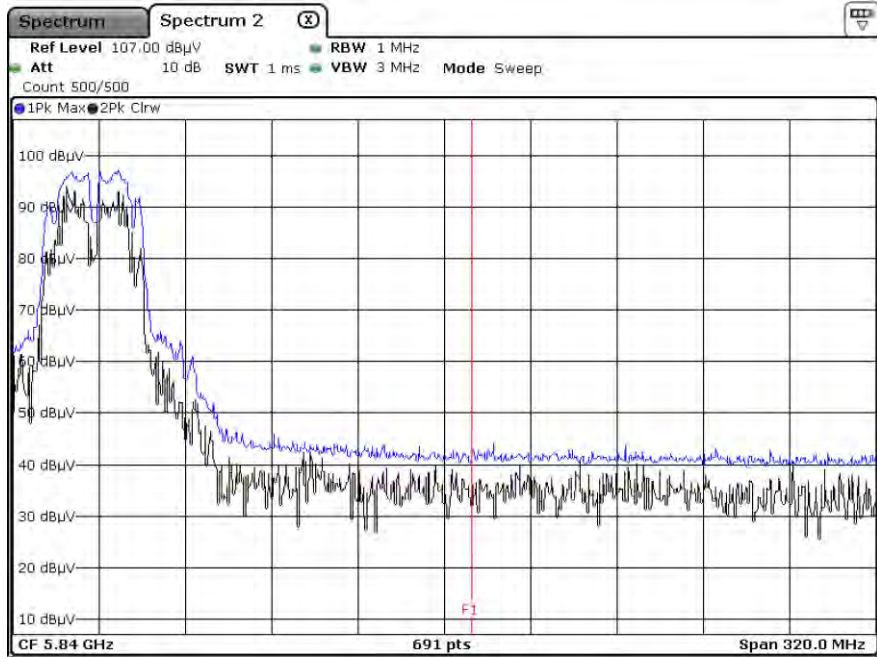
Peak Reading (802.11n_HT20, Ch.144, Z-H_0 degree)



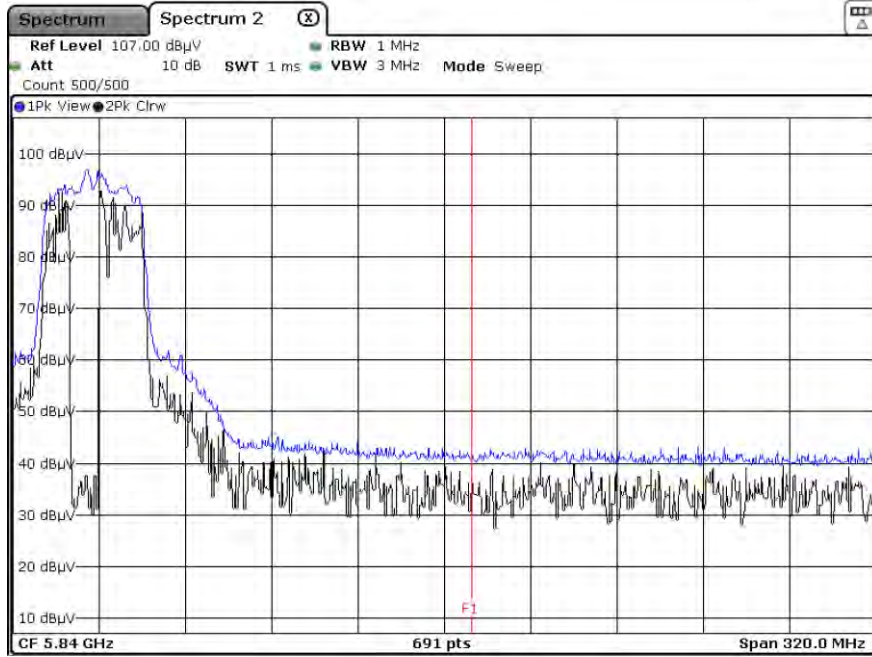
Peak Reading (802.11ac_VHT20, Ch.144, Z-H_0 degree)



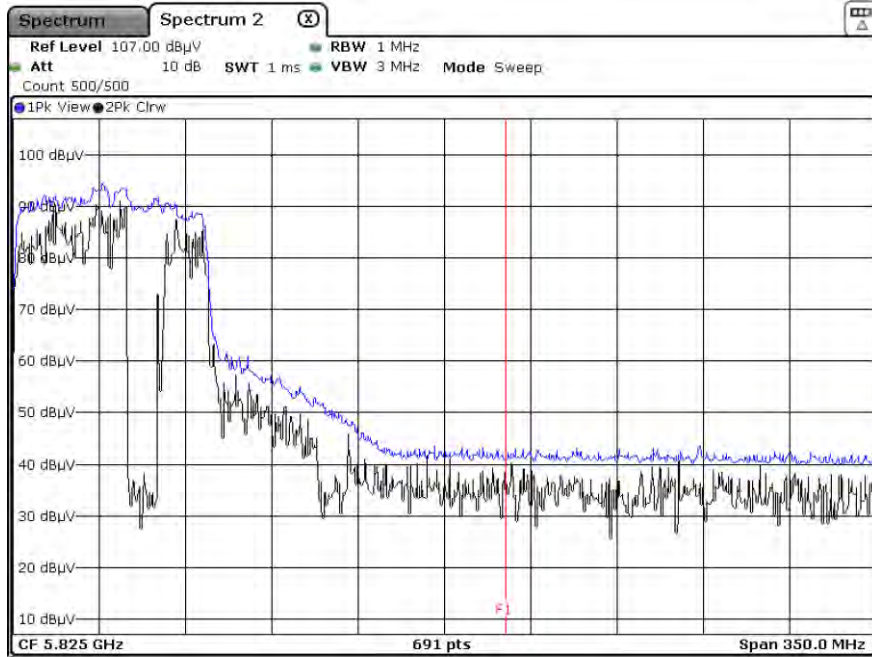
Peak Reading (802.11n_HT40, Ch.142, Z-H_0 degree)



Peak Reading (802.11ac_VHT40, Ch.142, Z-H_0 degree)



Peak Reading (802.11ac_VHT80, Ch.138, Z-H_0 degree)

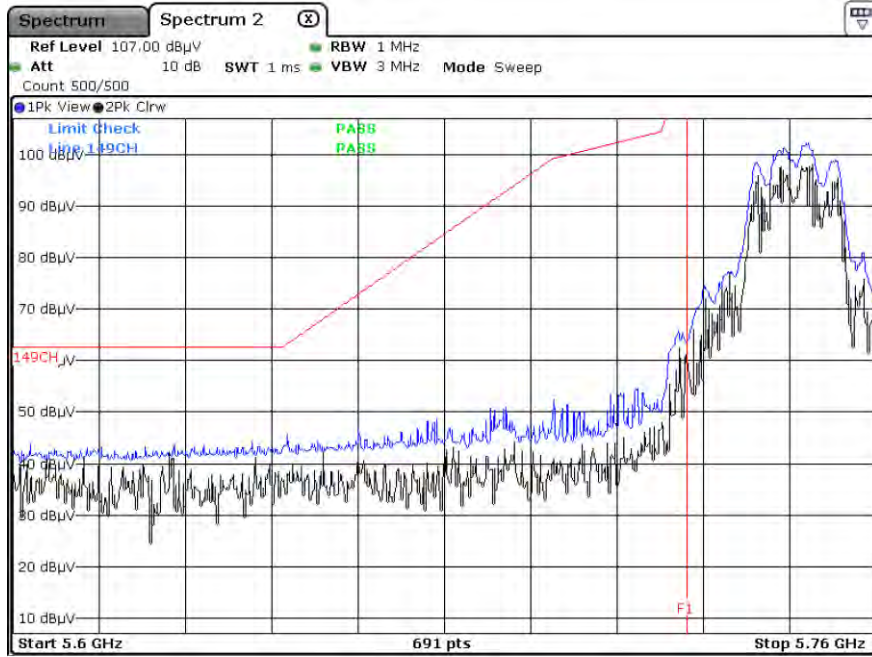


Note :

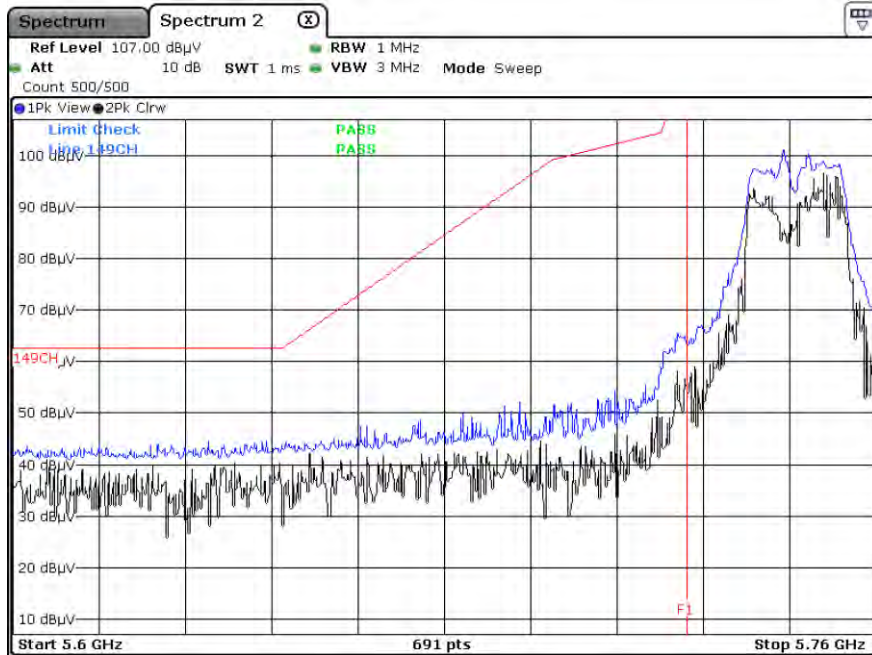
1. Only the worst case plots for Radiated Restricted Band Edge.
2. Red line : 5 850 MHz
3. Ambient Noise (Because of ambient noise, We attached only the worst plot without a data table)

■ Test Plots(UNII 3)

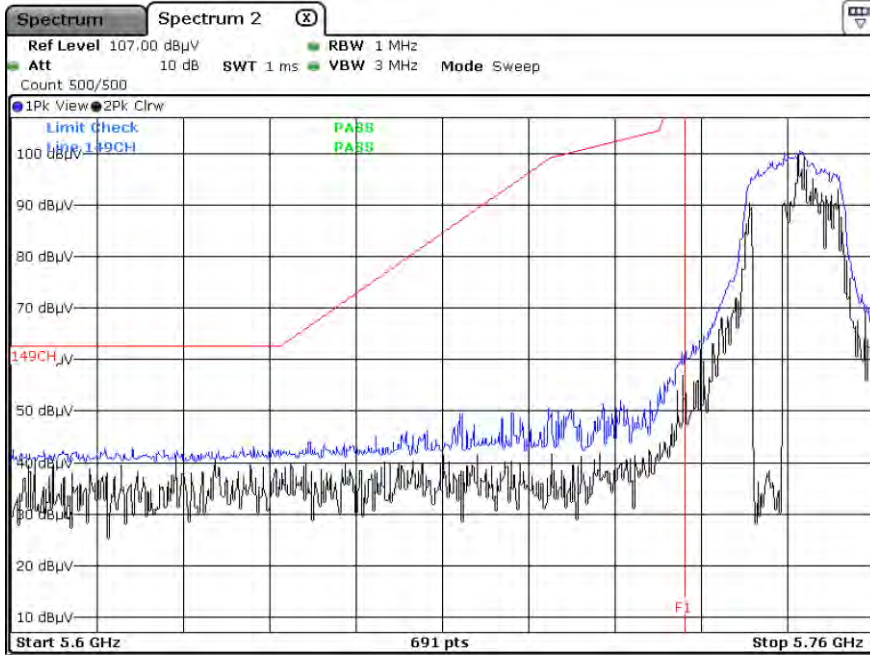
Peak Reading (802.11a, Ch.149, Z-H_0 degree)



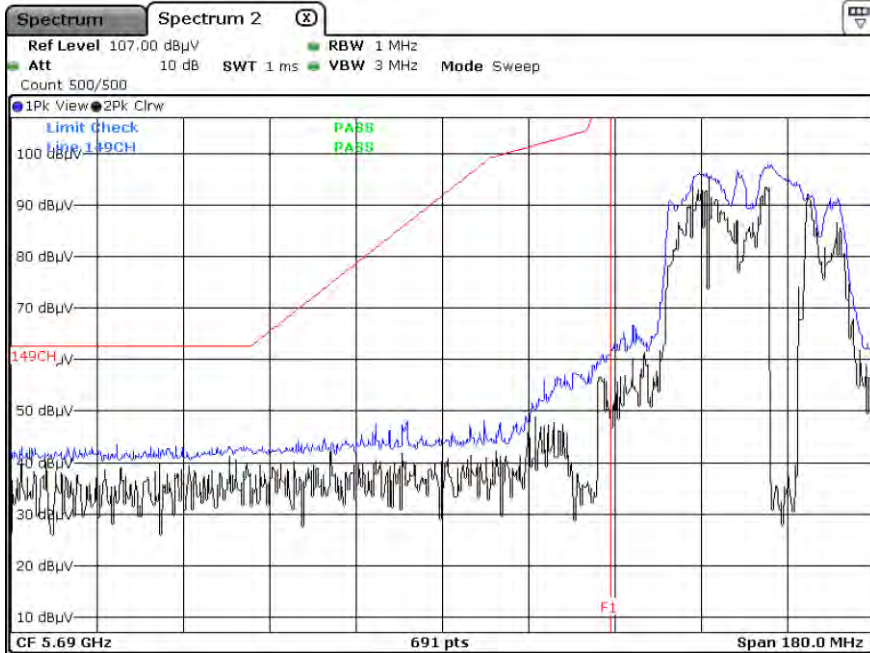
Peak Reading (802.11n_HT20, Ch.149, Z-H_0 degree)



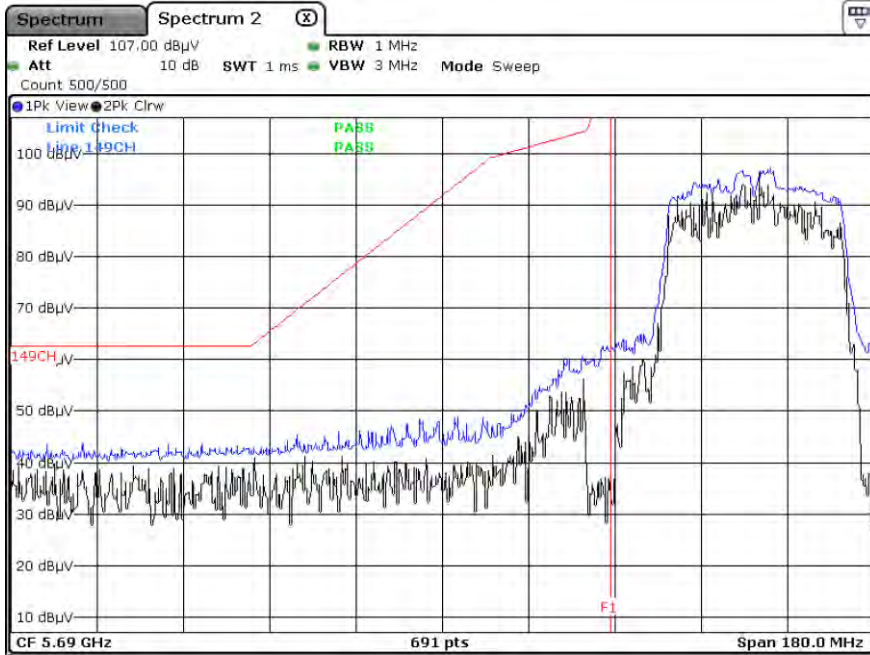
Peak Reading (802.11ac_VHT20, Ch.149, Z-H_0 degree)



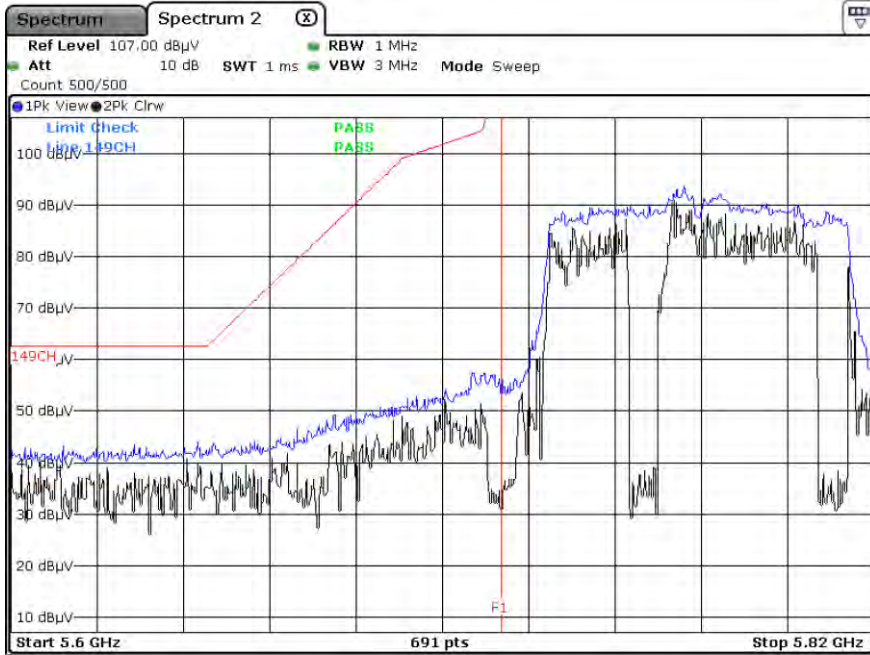
Peak Reading (802.11n_HT40, Ch.151, Z-H_0 degree)



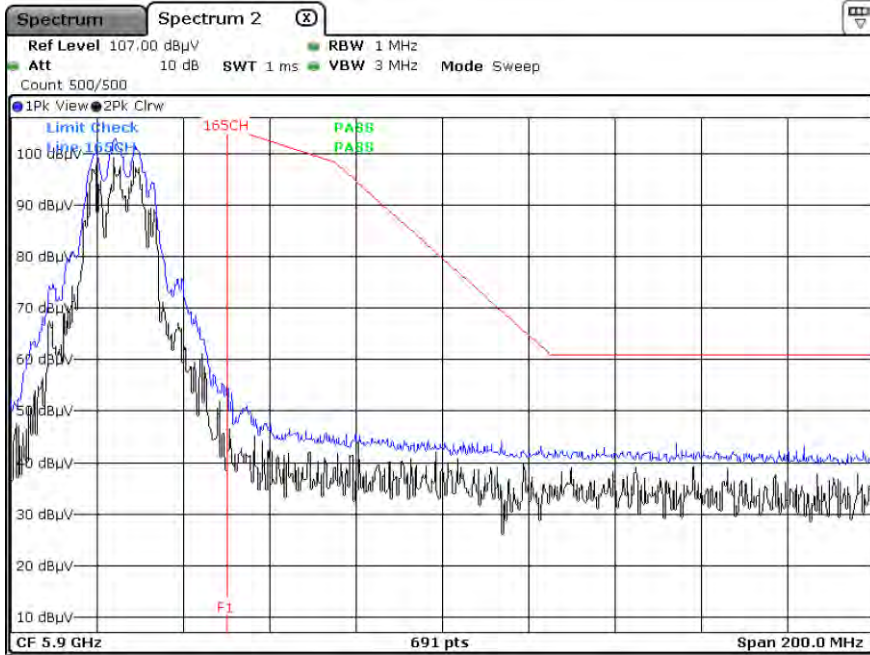
Peak Reading (802.11ac_VHT40, Ch.151, Z-H_0 degree)



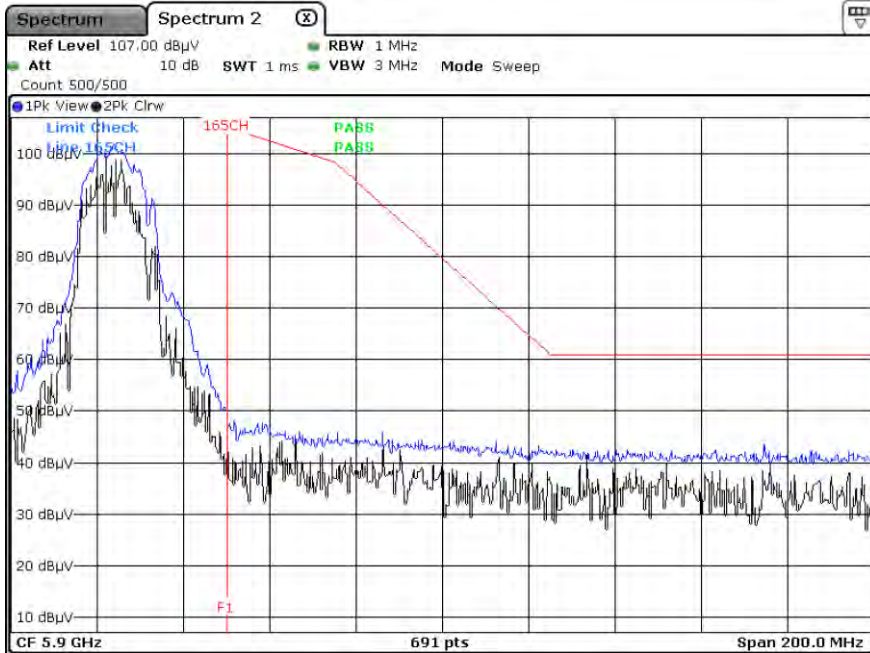
Peak Reading (802.11ac_VHT80, Ch.155, Z-H_0 degree)



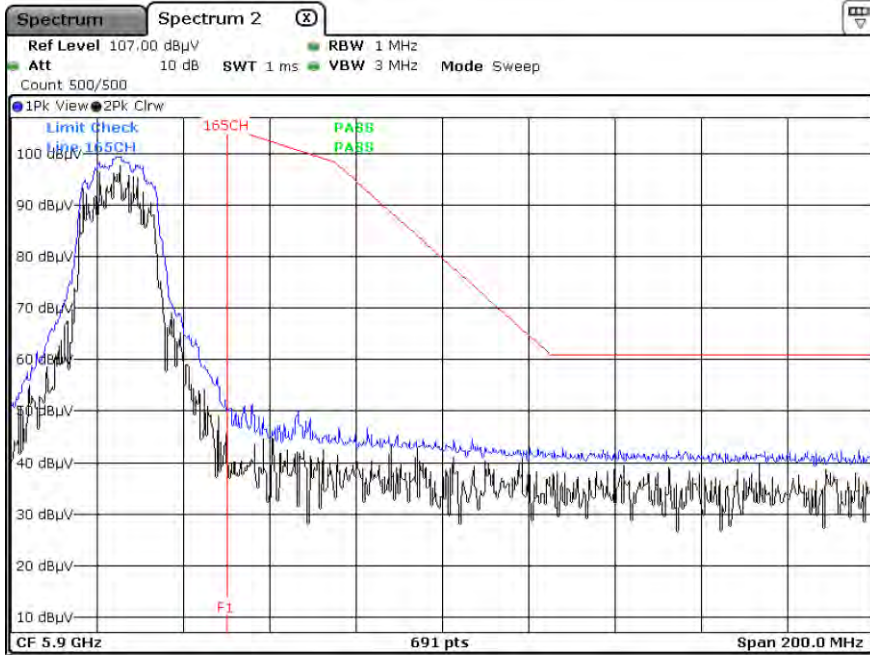
Peak Reading (802.11a, Ch.165, Z-H_0 degree)



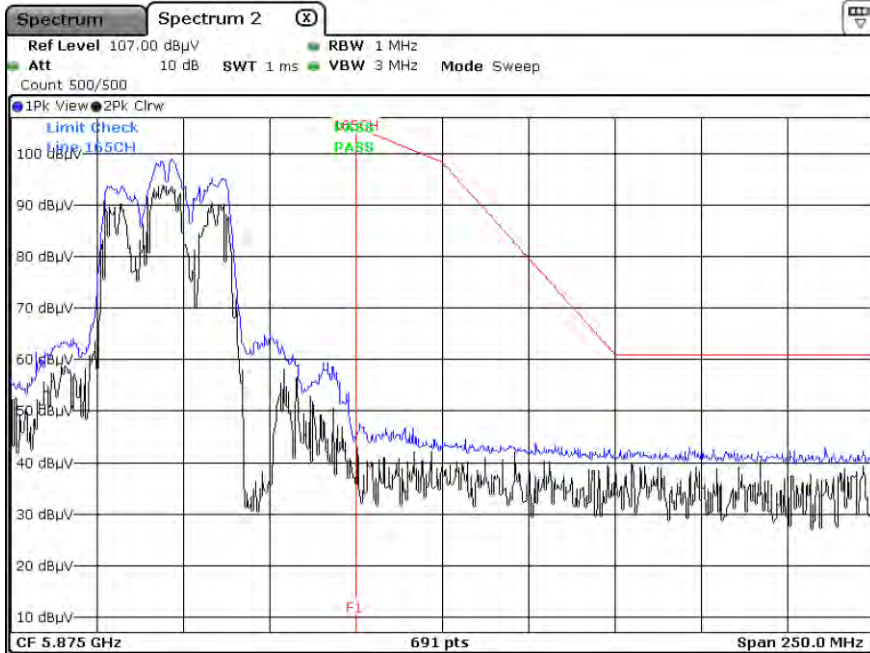
Peak Reading (802.11n_HT20, Ch.165, Z-H_0 degree)



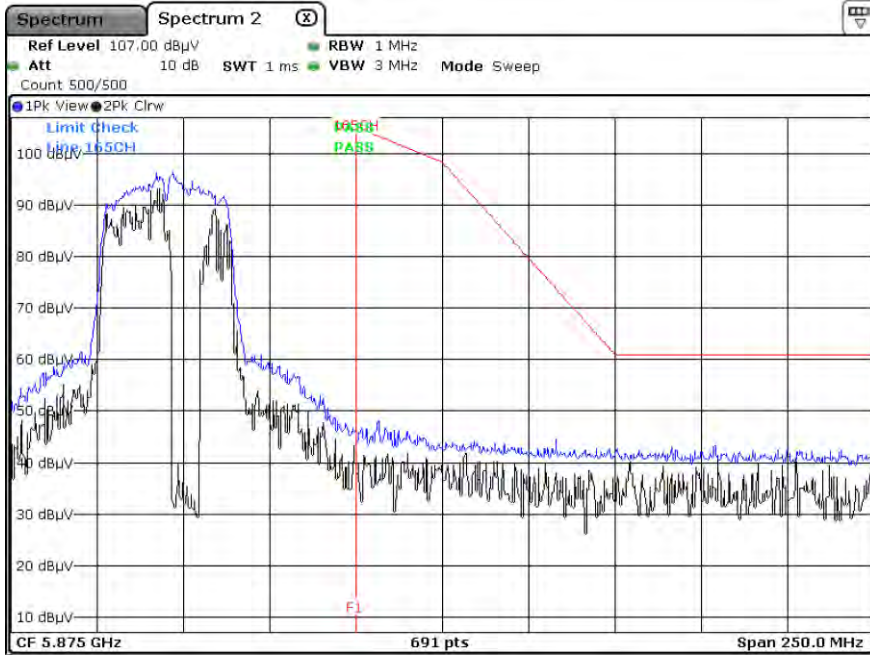
Peak Reading (802.11ac_VHT20, Ch.165, Z-H_0 degree)



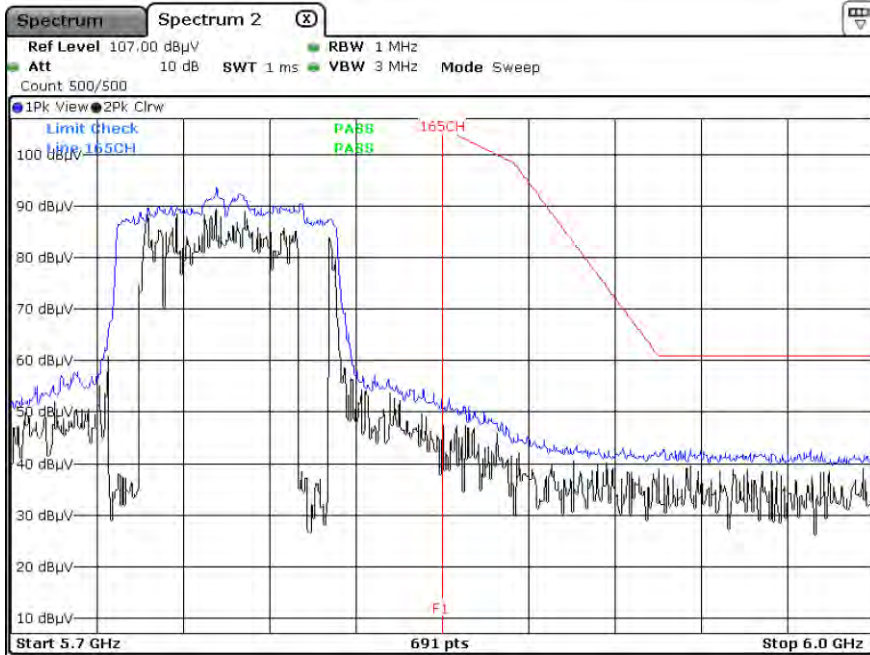
Peak Reading (802.11n_HT40, Ch.159, Z-H_0 degree)



Peak Reading (802.11ac_VHT40, Ch.159, Z-H_0 degree)



Peak Reading (802.11ac_VHT80, Ch.155, Z-H_0 degree)



10.10 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions (Line 1)

5G WLAN L1

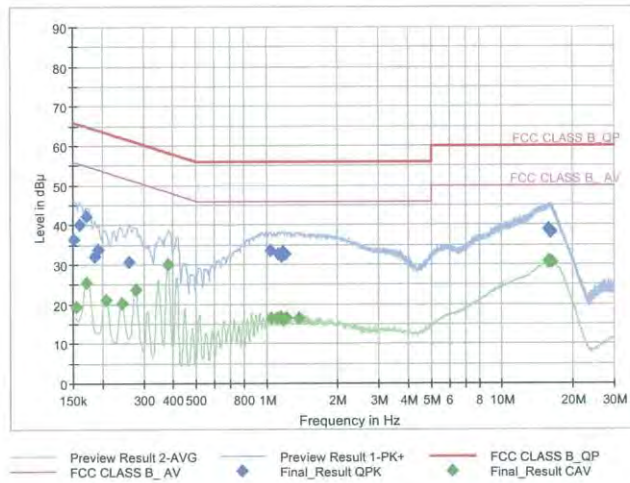
1 / 2

Test Report

Common Information

EUT : NP345XLA
 Manufacturer : SAMSUNG
 Test Site: SHIELD ROOM
 Operating Conditions : WLAN 5G L1
 Operator Name:
 Comment:

Full Spectrum



Final Result QPK

Frequency (MHz)	QuasiPeak	Limit (dBuV)	Margin	Bandwidth	Line	Filter	Corr. (dB)
0.1523	36.39	65.88	29.49	9.000	L1	OFF	9.6
0.1613	39.98	65.40	25.42	9.000	L1	OFF	9.6
0.1725	42.08	64.84	22.76	9.000	L1	OFF	9.6
0.1860	32.07	64.21	32.15	9.000	L1	OFF	9.6
0.1928	33.82	63.92	30.10	9.000	L1	OFF	9.6
0.2603	30.49	61.42	30.94	9.000	L1	OFF	9.6
1.0423	33.51	56.00	22.49	9.000	L1	OFF	9.6
1.1233	32.66	56.00	23.34	9.000	L1	OFF	9.6
1.1593	32.26	56.00	23.74	9.000	L1	OFF	9.6
1.1638	31.91	56.00	24.09	9.000	L1	OFF	9.6
1.1795	33.29	56.00	22.71	9.000	L1	OFF	9.6
1.2020	32.56	56.00	23.44	9.000	L1	OFF	9.6
15.7213	38.93	60.00	21.07	9.000	L1	OFF	9.9
15.8045	38.67	60.00	21.33	9.000	L1	OFF	9.9
15.9260	38.65	60.00	21.35	9.000	L1	OFF	9.9
16.0295	38.51	60.00	21.49	9.000	L1	OFF	9.9
16.1330	38.36	60.00	21.64	9.000	L1	OFF	9.9
16.1578	38.12	60.00	21.88	9.000	L1	OFF	9.9

Final_Result_CAV

2021-03-23

오전 9:41:39

5G WLAN L1

2 / 2

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.1545	19.42	55.75	36.33	9.000	L1	OFF	9.6
0.1725	25.37	54.84	29.46	9.000	L1	OFF	9.6
0.2085	20.95	53.27	32.31	9.000	L1	OFF	9.6
0.2423	20.17	52.02	31.85	9.000	L1	OFF	9.6
0.2783	23.71	50.87	27.15	9.000	L1	OFF	9.6
0.3818	29.99	48.24	18.25	9.000	L1	OFF	9.6
1.0445	16.48	46.00	29.52	9.000	L1	OFF	9.6
1.1143	16.35	46.00	29.65	9.000	L1	OFF	9.6
1.1503	16.61	46.00	29.39	9.000	L1	OFF	9.6
1.1728	15.92	46.00	30.08	9.000	L1	OFF	9.6
1.2200	16.30	46.00	29.70	9.000	L1	OFF	9.6
1.3798	16.48	46.00	29.52	9.000	L1	OFF	9.6
15.7235	30.69	50.00	19.31	9.000	L1	OFF	9.9
15.7595	30.73	50.00	19.27	9.000	L1	OFF	9.9
15.9733	30.83	50.00	19.17	9.000	L1	OFF	9.9
16.0295	30.83	50.00	19.17	9.000	L1	OFF	9.9
16.1870	30.62	50.00	19.38	9.000	L1	OFF	9.9
16.3468	30.62	50.00	19.38	9.000	L1	OFF	9.9

2021-03-23

오전 9:41:39

Conducted Emissions (Line 2)

5G WLAN N

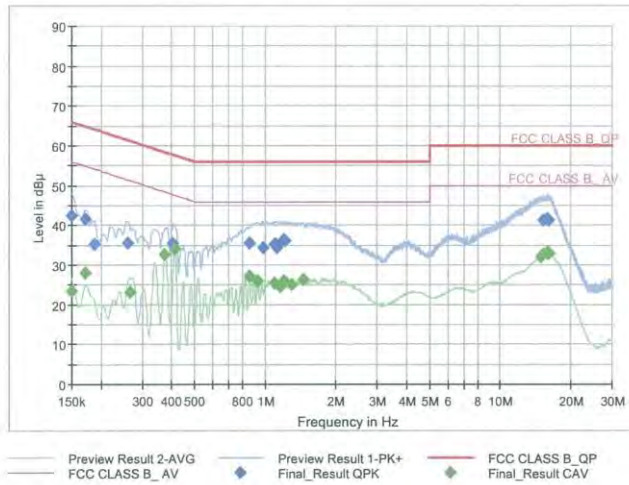
1 / 2

Test Report

Common Information

EUT : NP345XLA
 Manufacturer : SAMSUNG
 Test Site: SHIELD ROOM
 Operating Conditions : WLAN 5G N
 Operator Name:
 Comment:

Full Spectrum



Final Result_QPK

Frequency (MHz)	QuasiPeak	Limit (dBuV)	Margin	Bandwidth	Line	Filter	Corr. (dB)
0.1500	42.44	66.00	23.56	9.000	N	OFF	9.6
0.1725	41.60	64.84	23.24	9.000	N	OFF	9.6
0.1883	35.13	64.11	28.98	9.000	N	OFF	9.6
0.2603	35.40	61.42	26.02	9.000	N	OFF	9.6
0.4043	35.38	57.77	22.38	9.000	N	OFF	9.6
0.8623	35.59	56.00	20.41	9.000	N	OFF	9.6
0.9793	34.24	56.00	21.76	9.000	N	OFF	9.6
1.0985	35.15	56.00	20.85	9.000	N	OFF	9.6
1.1165	35.16	56.00	20.84	9.000	N	OFF	9.6
1.1233	34.46	56.00	21.54	9.000	N	OFF	9.6
1.2043	36.48	56.00	19.52	9.000	N	OFF	9.6
1.2088	36.02	56.00	19.98	9.000	N	OFF	9.6
15.2848	41.29	60.00	18.71	9.000	N	OFF	9.9
15.7685	41.54	60.00	18.46	9.000	N	OFF	9.9
16.0093	41.43	60.00	18.57	9.000	N	OFF	9.9
16.0970	41.37	60.00	18.63	9.000	N	OFF	9.9
16.1375	41.34	60.00	18.66	9.000	N	OFF	9.9
16.1465	41.38	60.00	18.62	9.000	N	OFF	9.9

Final Result_CAV

2021-03-23

오전 9:35:27

5G WLAN N

2 / 2

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.1500	23.34	56.00	32.66	9.000	N	OFF	9.6
0.1725	28.01	54.84	26.83	9.000	N	OFF	9.6
0.2648	22.95	51.28	28.33	9.000	N	OFF	9.6
0.3750	32.54	48.39	15.85	9.000	N	OFF	9.6
0.4110	33.91	47.63	13.72	9.000	N	OFF	9.6
0.8600	27.12	46.00	18.88	9.000	N	OFF	9.6
0.9298	25.95	46.00	20.05	9.000	N	OFF	9.6
1.1008	25.43	46.00	20.57	9.000	N	OFF	9.6
1.1660	24.63	46.00	21.37	9.000	N	OFF	9.6
1.2020	25.84	46.00	20.16	9.000	N	OFF	9.6
1.3078	25.03	46.00	20.97	9.000	N	OFF	9.6
1.4473	26.24	46.00	19.76	9.000	N	OFF	9.6
14.9540	32.00	50.00	18.00	9.000	N	OFF	9.9
15.2938	32.54	50.00	17.46	9.000	N	OFF	9.9
15.9800	32.98	50.00	17.02	9.000	N	OFF	9.9
16.0160	33.07	50.00	16.93	9.000	N	OFF	9.9
16.0993	32.98	50.00	17.02	9.000	N	OFF	9.9
16.1465	32.88	50.00	17.12	9.000	N	OFF	9.9

2021-03-23

오전 9:35:27

11. LIST OF TEST EQUIPMENT

Conducted Test

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	09/04/2020	Annual	102245
Rohde & Schwarz	ESR / EMI Test Receiver	09/16/2020	Annual	101910
ESPAC	SU-642 / Temperature Chamber	03/15/2021	Annual	0093008124
Agilent	N9030A / Signal Analyzer	01/11/2021	Annual	MY49431210
Rohde & Schwarz	OSP 120 / Power Measurement Set	07/02/2020	Annual	101231
Agilent	N1911A / Power Meter	04/07/2020	Annual	MY45100523
Keysight	N1921A / Power Sensor	06/08/2020	Annual	MY57820067
Agilent	87300B / Directional Coupler	11/10/2020	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	05/25/2020	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	06/12/2020	Annual	KR75303960
Agilent	8493C / Attenuator(10 dB)	06/26/2020	Annual	07560
Rohde & Schwarz	EMC32 / Software	N/A	N/A	N/A
HCT CO., LTD.	FCC WLAN&BT&BLE Conducted Test Software v3.0	N/A	N/A	N/A

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

Radiated Test

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Innco system	CO3000 / Controller(Antenna mast)	N/A	N/A	CO3000-4p
Innco system	MA4640/800-XP-EP / Antenna Position Tower	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Audix	Turn Table	N/A	N/A	N/A
Rohde & Schwarz	Loop Antenna	05/18/2020	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	02/22/2021	Biennial	760
Schwarzbeck	BBHA 9120D / Horn Antenna	02/17/2021	Biennial	9120D-937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	11/29/2019	Biennial	BBHA9170541
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	07/28/2020	Annual	102168
Agilent	N9030A / Signal Analyzer	01/11/2021	Annual	MY49431210
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	01/06/2021	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	02/08/2021	Annual	1
Wainwright Instruments	WHK3.0/18G-10EF / High Pass Filter	02/03/2021	Annual	8
Wainwright Instruments	WHKX8-6090-7000-18000-40SS/ High Pass Filter	02/03/2021	Annual	25
Api tech.	18B-03 / Attenuator (3 dB)	02/03/2021	Annual	1
Agilent	8493C-10 / Attenuator(10 dB)	02/03/2021	Annual	08285
CERNEX	CBLU1183540 / Power Amplifier	02/03/2021	Annual	22964
CERNEX	CBL06185030 / Power Amplifier	02/03/2021	Annual	22965
CERNEX	CBL18265035 / Power Amplifier	12/04/2020	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	03/23/2021	Annual	25956

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).

12. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2103-FC031-P