

4.6 Unwanted Emissions

Test Location

- ☒ 10 m SAC (test distance : ☐ 10 m, ☒ 3 m)
☒ 3 m SAC (test distance : 3 m)

Test Procedures

- 1) In the frequency range of 9 kHz to 30 MHz, magnetic field is measured with Loop Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- 2) In the frequency range above 30 MHz, Bi-Log Test Antenna(30 MHz to 1 GHz) and Horn Test Antenna(above 1 GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is carried from 1m to 4m above the ground to determine the maximum value of the field strength. The emissions levels at both horizontal and vertical polarizations should be tested.

Test Settings:

Frequency Range = 9 kHz ~ 40 GHz

a) RBW = 100 kHz for $f < 1$ GHz, 9 kHz for $f < 30$ MHz

b) VBW \geq RBW

c) Sweep time = auto

Limit

- 1) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

15.209(a)

Frequency(MHz)	Field Strength uV/m	Field Strength dBuV/m	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705-30	30	-	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

- 2) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- 3) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

- ※ $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] - 20\log(d) + 104.77$
 $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2$, for $d = 3$ m
 e.i.r.p. -27 dBm => **68.2 dBuV/m**
 e.i.r.p. 10 dBm => **105.2 dBuV/m**
 e.i.r.p. 15.6 dBm => **110.8 dBuV/m**
 e.i.r.p. 27 dBm => **122.2 dBuV/m**

4) The provisions of §15.205 apply to intentional radiators operating under this section.

15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

Table 1. Restricted Frequency Bands*

MHz	MHz	MHz	MHz	MHz	GHz
0.09-0.11	8.37626-8.38675	73-74.6	399.9-410	2690-2900	10.6-12.7
¹ 0.495-0.505	8.41425-8.41475	74.8-75.2	608-614	3260-3267	13.25-13.4
2.1735-2.1905	12.29-12.293	108-121.94	960-1240	3332-3339	14.47-14.5
4.125-4.128	12.51975-12.52025	123-138	1300-1427	3345.8-3358	15.35-16.2
4.17725-4.17775	12.57675-12.57725	149.9-150.05	1435-1626.5	3600-4400	17.7-21.4
4.20725-4.20775	13.36-13.41	156.52475-156.52525	1645.5-1646.5	4500-5150	22.01-23.12
6.215-6.218	16.42-16.423	156.7-156.9	1660-1710	5350-5460	23.6-24
6.26775-6.26825	16.69475-16.69525	162.0125-167.17	1718.8-1722.2	7250-7750	31.2-31.8
6.31175-6.31225	16.80425-16.80475	167.72-173.2	2200-2300	8025-8500	36.43-36.5
8.291-8.294	25.5-25.67	240-285	2310-2390	9000-9200	² Above 38.6
8.362-8.366	37.5-38.25	322-335.4	2483.5-2500	9300-9500	

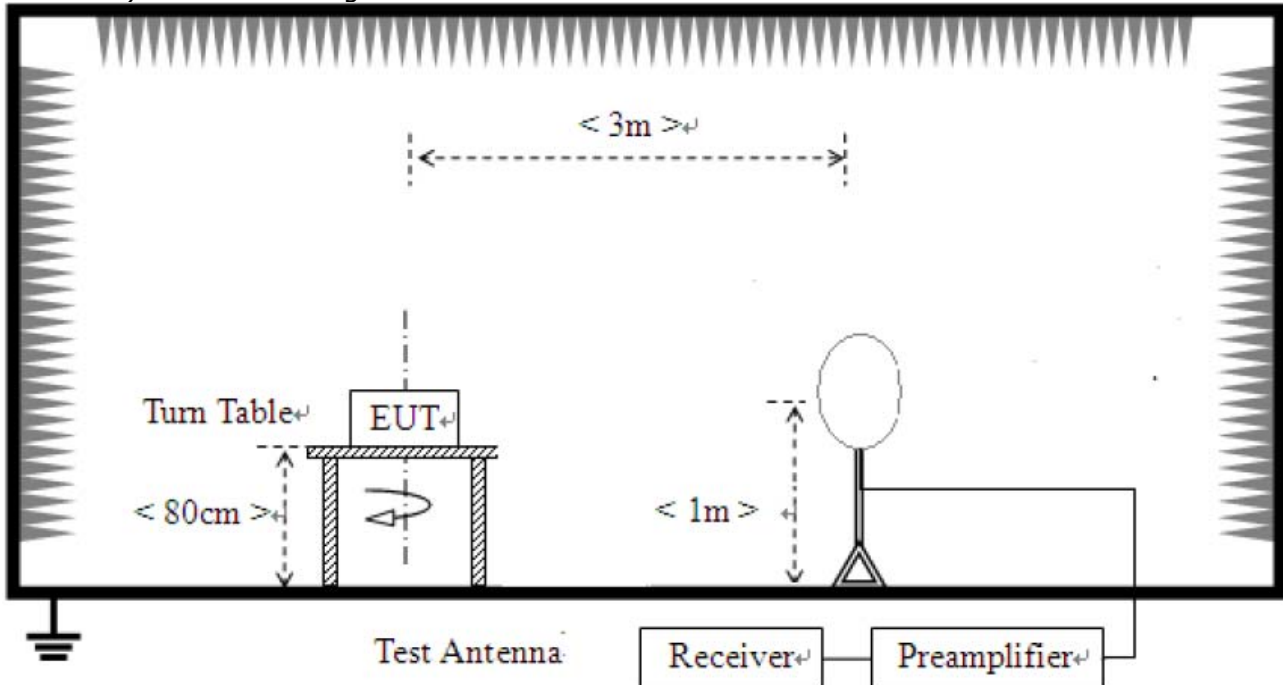
¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

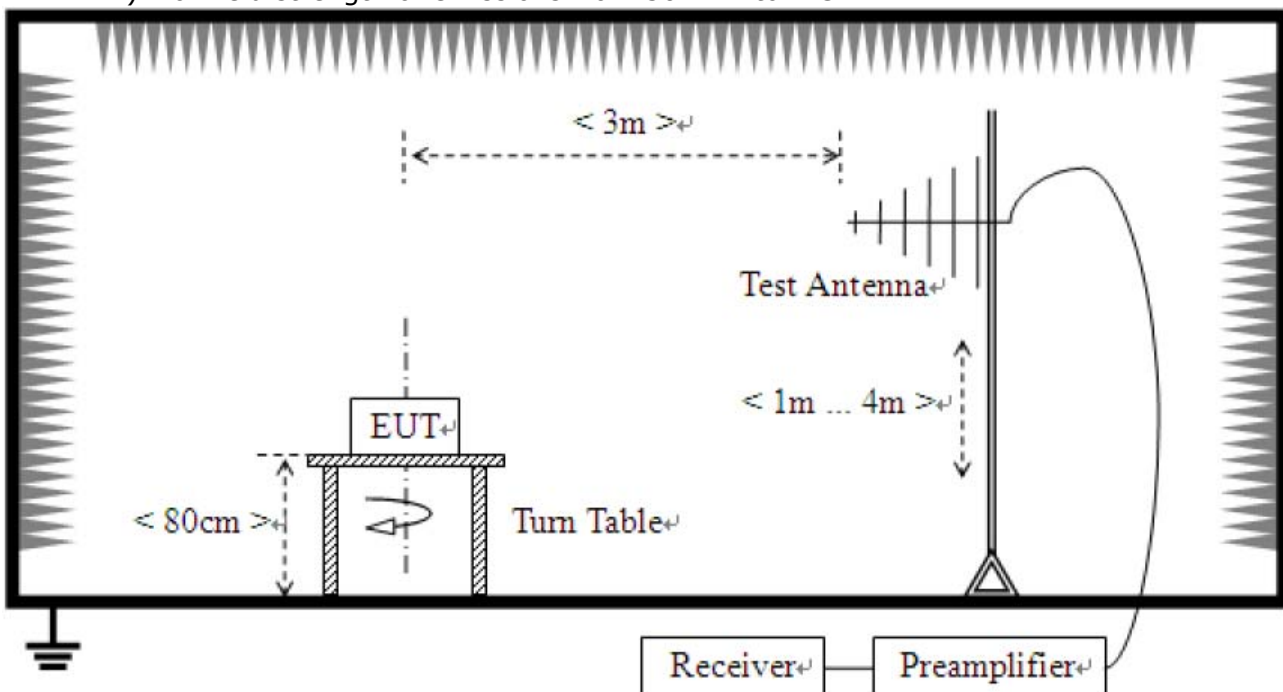
15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions.

Test Setup:

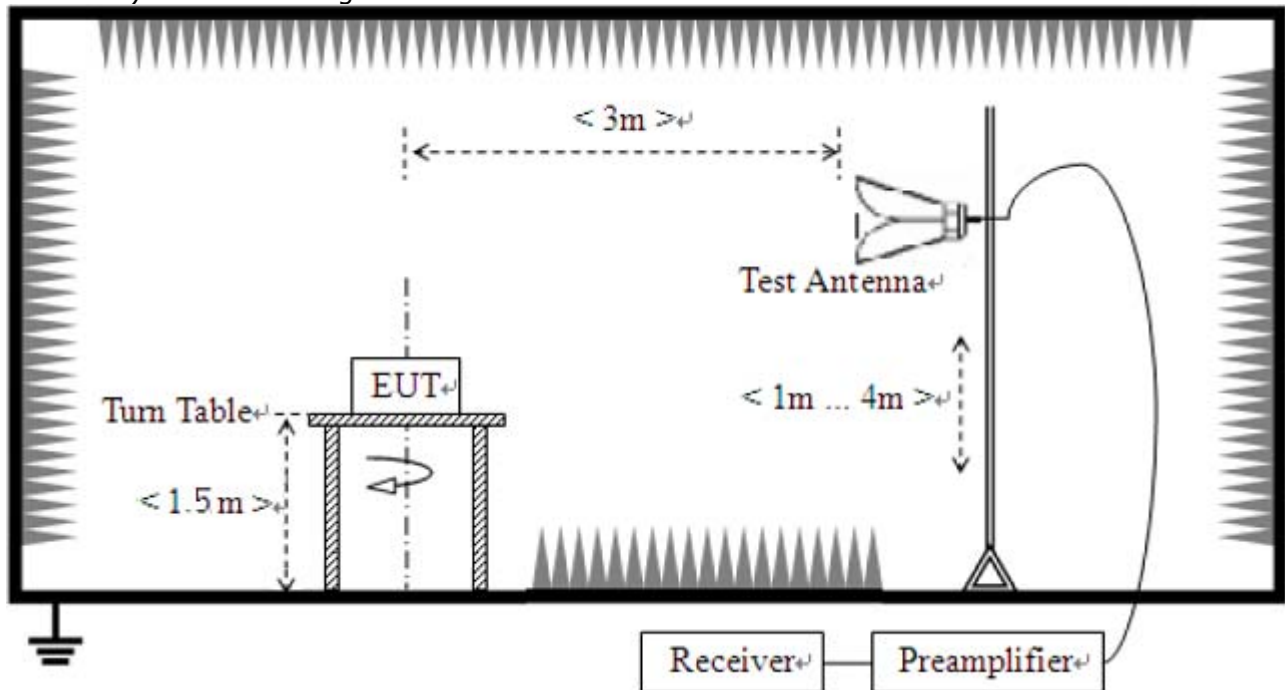
- 1) For field strength of emissions from 9 kHz to 30 MHz



- 2) For field strength of emissions from 30 MHz to 1 GHz



3) For field strength of emissions above 1 GHz



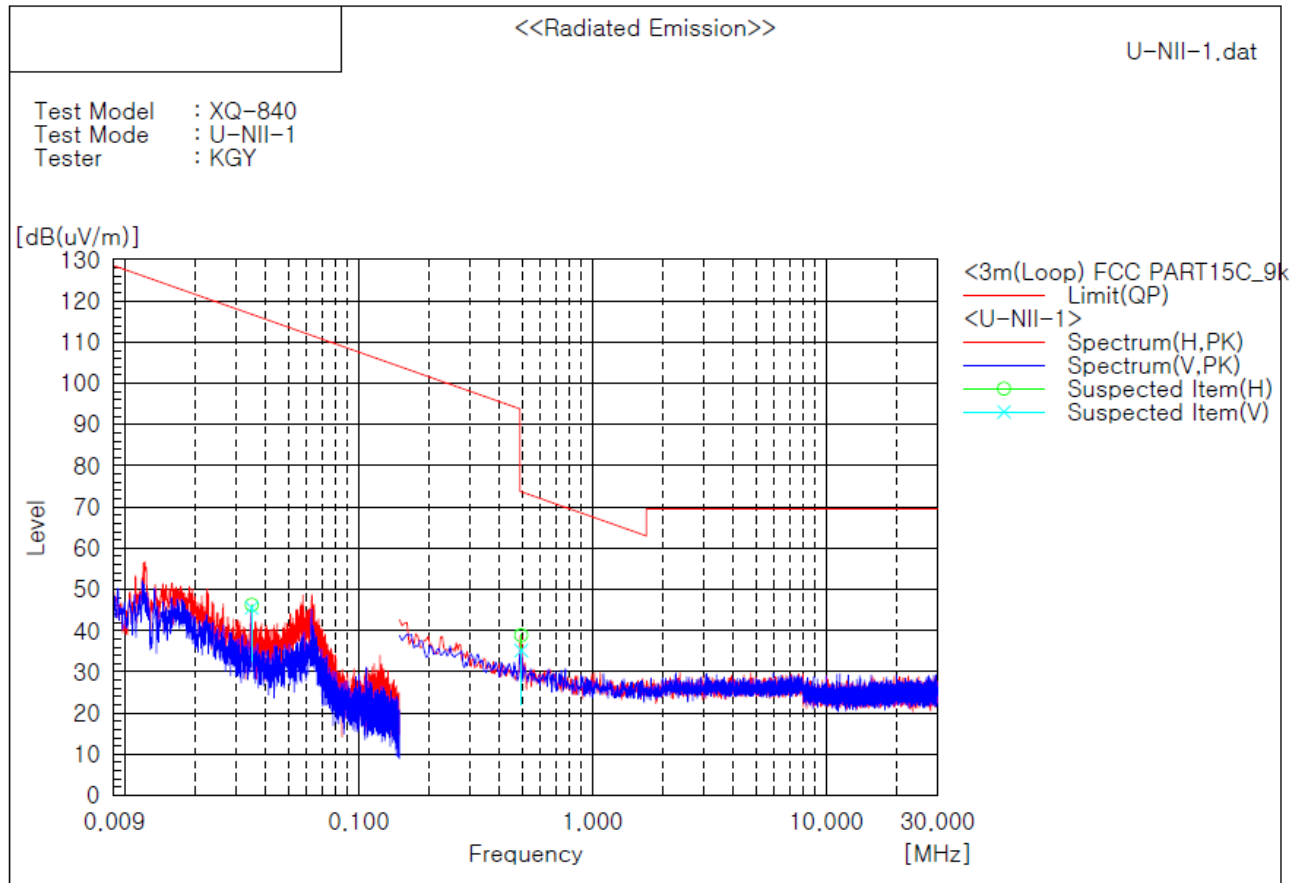
Test Results

1) 9 kHz to 30 MHz

The requirements are:

☒ Complies

Test mode : 802.11a, UNII 1 band (Worst case)

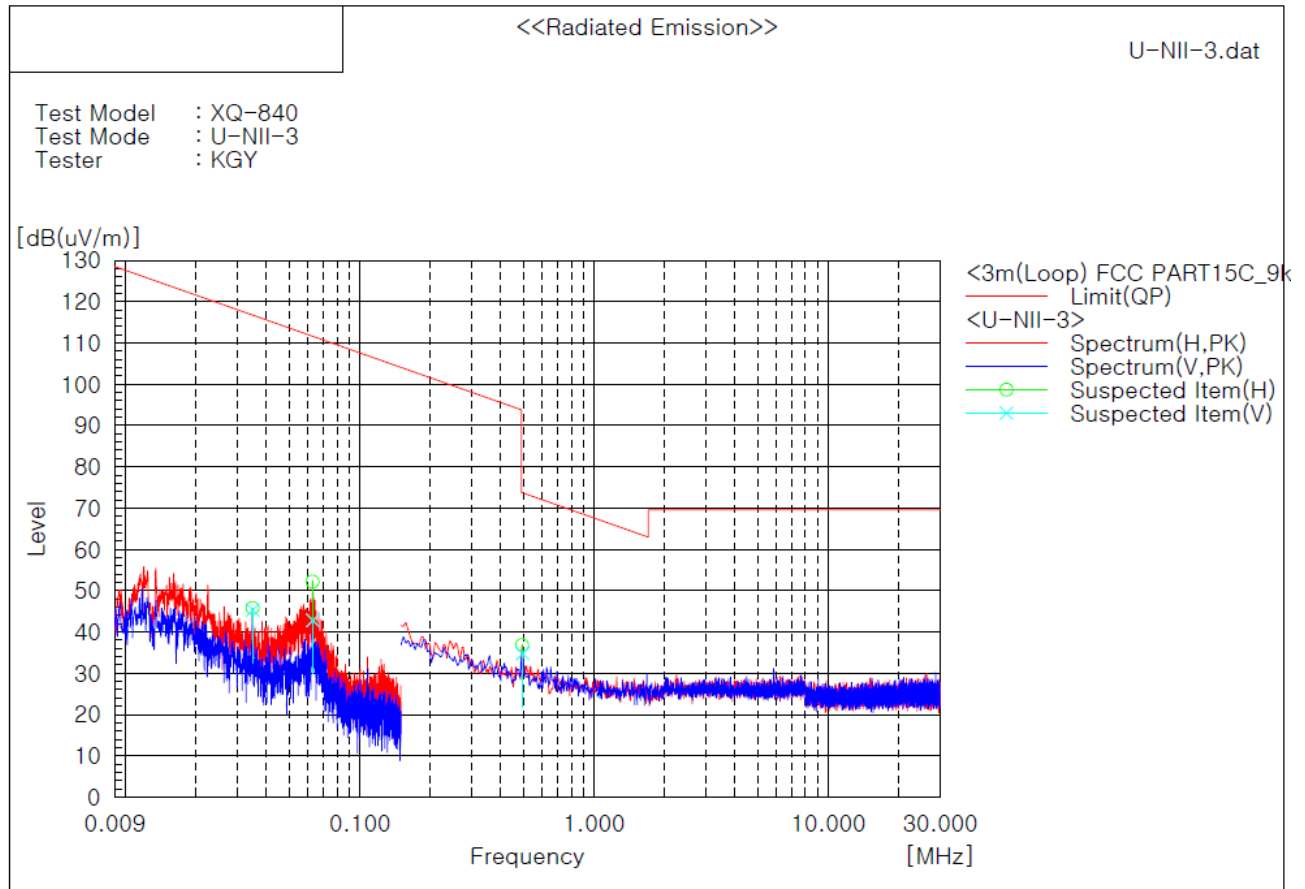


Result : There are more than 20 dB of margin compared to the reference value.

Remark :

1. Measuring position : The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator
4. Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)
5. This data is the Peak(PK) value.

Test mode : 802.11a, UNII 3 band (Worst case)



Result : There are more than 20 dB of margin compared to the reference value.

Remark :

1. Measuring position : The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator
4. Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)
5. This data is the Peak(PK) value.

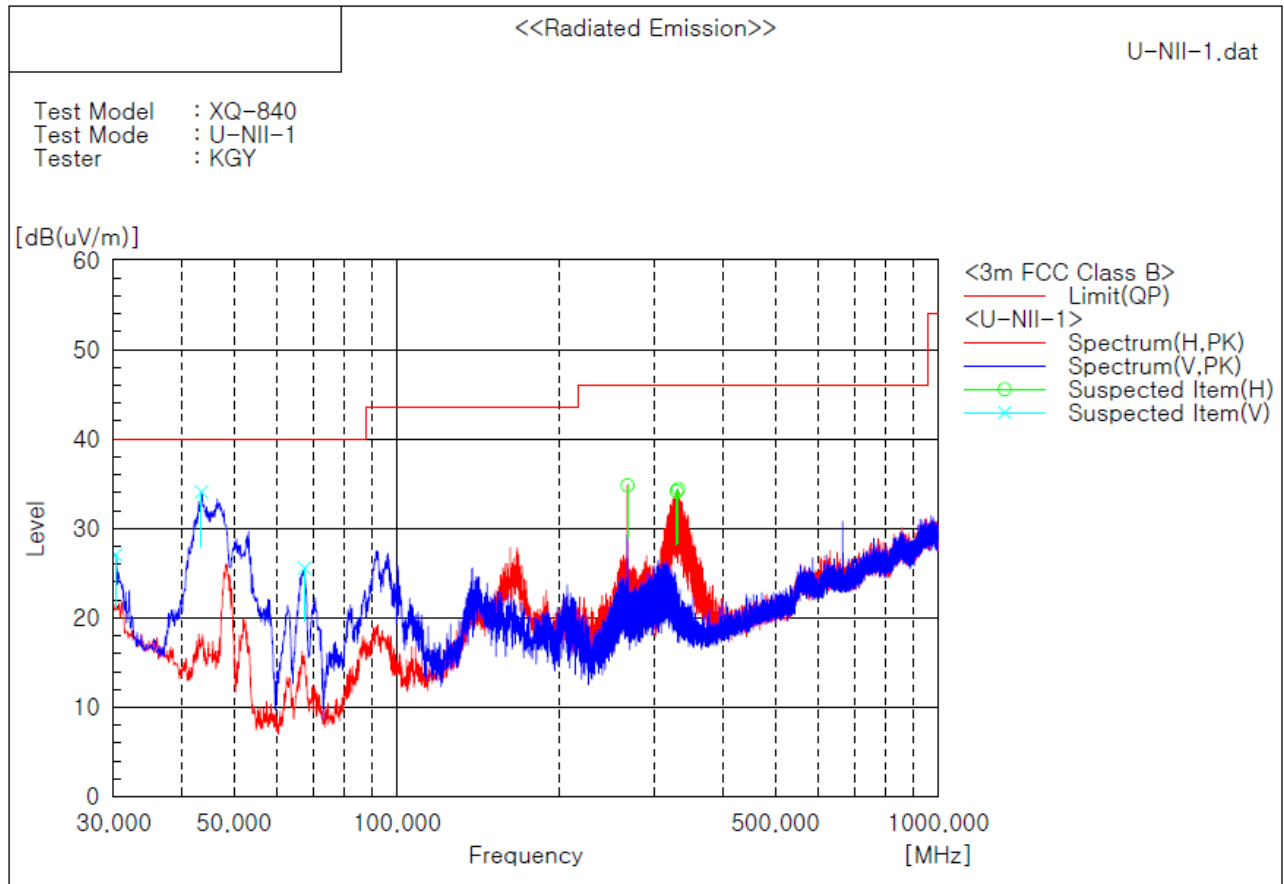
2) 30 MHz to 1 GHz

Test mode : 802.11a, UNII 1 band (Worst case)

The requirements are:

☒ Complies

Test Data



Spectrum Selection

No.	Frequency [MHz]	(P)	Reading [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	30.243	V	33.2	-6.2	27.0	40.0	13.0	101.0	133.0
2	43.580	V	47.0	-12.9	34.1	40.0	5.9	101.0	312.0
3	67.588	V	43.3	-17.7	25.6	40.0	14.4	101.0	149.0
4	266.680	H	43.5	-8.7	34.8	46.0	11.2	101.0	290.0
5	328.760	H	41.7	-7.6	34.1	46.0	11.9	101.0	84.0
6	331.064	H	41.9	-7.5	34.4	46.0	11.6	101.0	61.0

Remark :

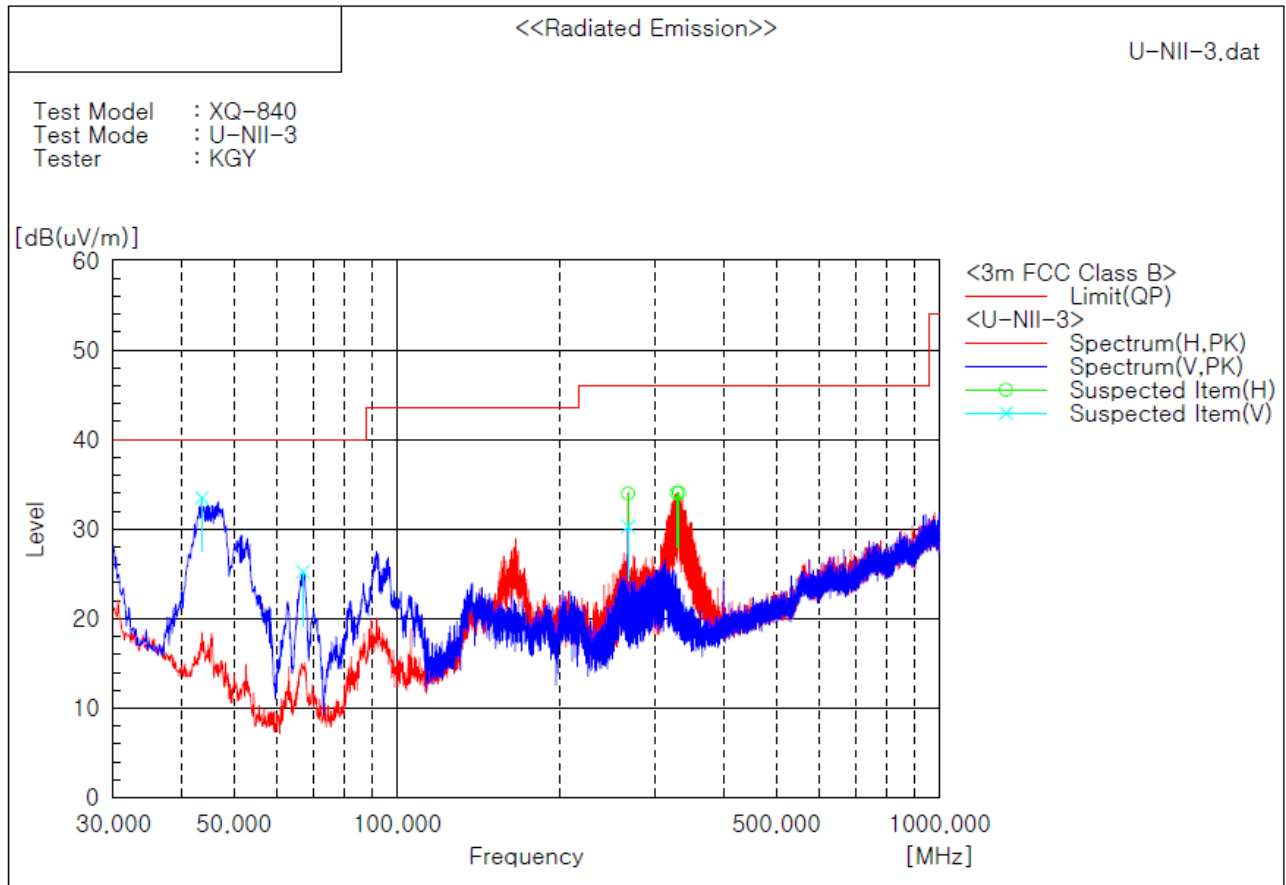
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator - Amp Gain
4. This data is the Peak(PK) value.

Test mode : 802.11a, UNII 3 band (Worst case)

The requirements are:

☒ Complies

Test Data



Spectrum Selection

No.	Frequency [MHz]	(P)	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	43.701	V	46.4	-12.9	33.5	40.0	6.5	101.0	298.0
2	67.103	V	42.9	-17.7	25.2	40.0	14.8	195.0	211.0
3	266.680	H	42.7	-8.7	34.0	46.0	12.0	101.0	283.0
4	266.680	V	39.0	-8.7	30.3	46.0	15.7	195.0	6.0
5	328.033	H	41.6	-7.6	34.0	46.0	12.0	101.0	71.0
6	331.064	H	41.6	-7.5	34.1	46.0	11.9	101.0	81.0

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator - Amp Gain
4. This data is the Peak(PK) value.

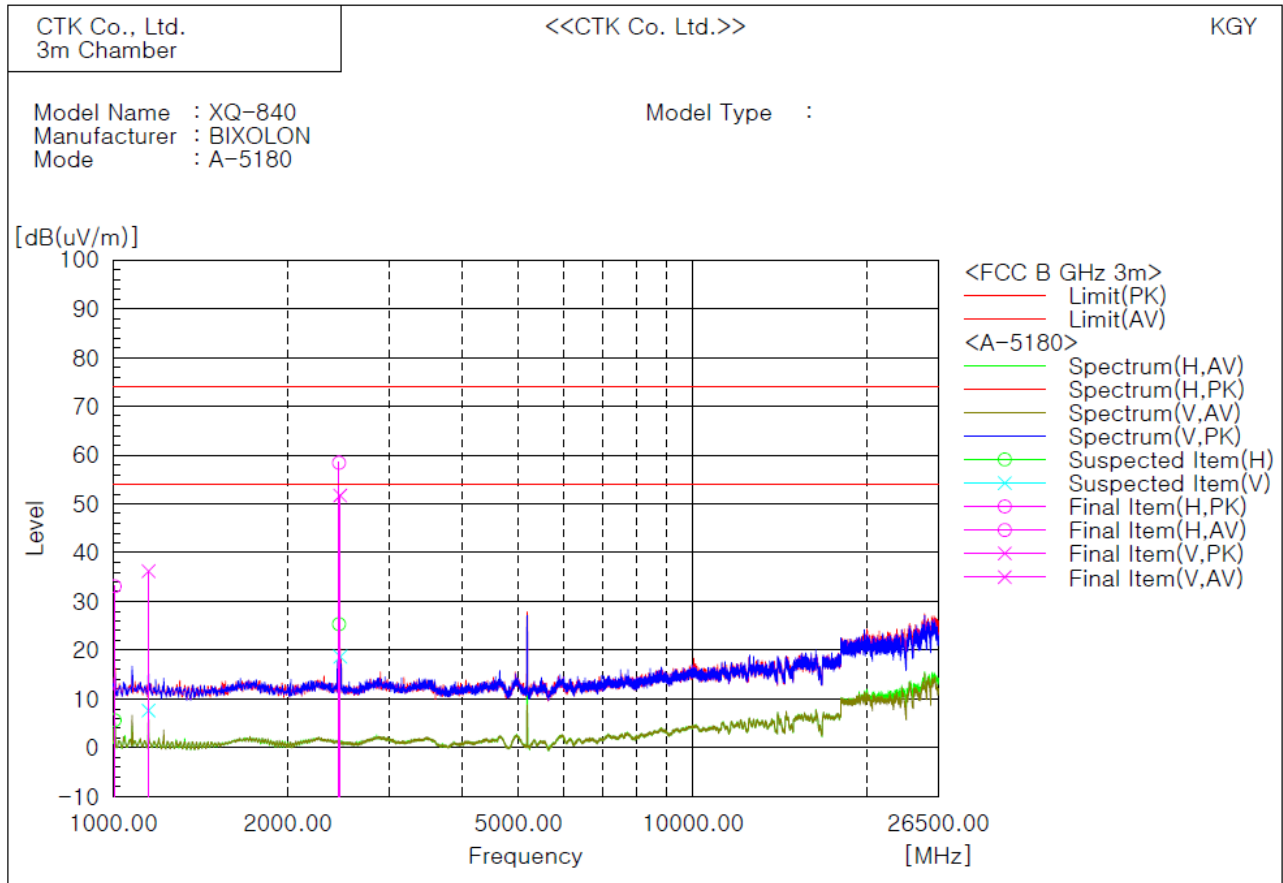
3) above 1 GHz to 26.5 GHz

Test mode : 802.11a, UNII 1 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	43.5	43.5	-10.4	33.1	33.1	74.0	54.0	15.6	20.9	285.0	338.6	
2	1150.875	V	44.9	44.9	-8.7	36.2	36.2	74.0	54.0	15.6	17.8	276.6	169.0	
3	2453.500	H	60.0	60.0	-1.6	58.4	58.4	74.0	54.0	15.6	285.0	359.9		
4	2464.125	V	53.3	53.3	-1.6	51.7	51.7	74.0	54.0	22.3	276.6	190.4		

Remark :

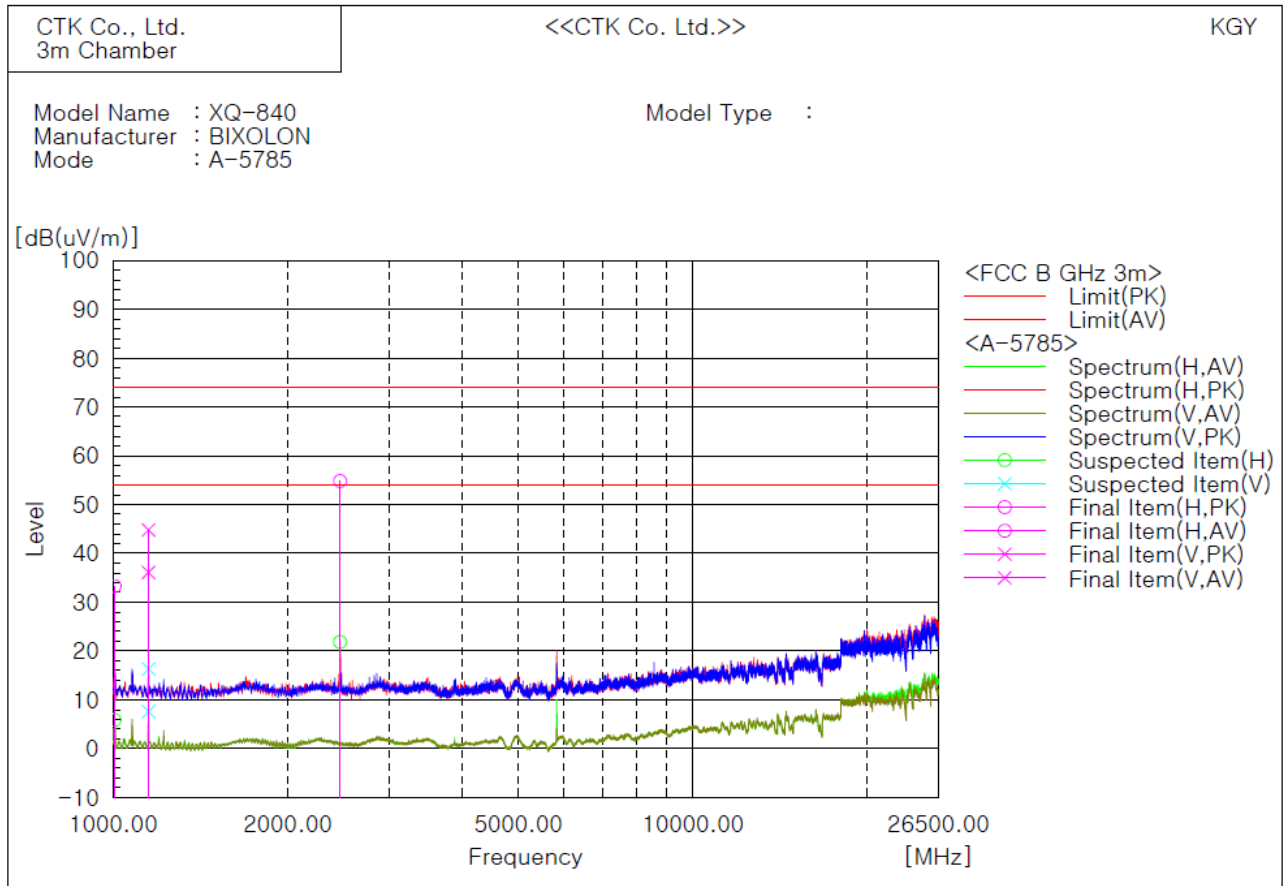
- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11a, UNII 3 band, middle channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	43.7	43.7	-10.4	33.3	33.3	74.0	54.0	29.2	20.7	283.4	229.0	
2	1150.875	V	53.5	44.8	-8.7	44.8	36.1	74.0	54.0	29.2	17.9	273.9	356.0	
3	1150.875	V	53.5	44.8	-8.7	44.8	36.1	74.0	54.0	29.2	17.9	273.9	356.0	
4	2464.125	H	56.4	44.8	-1.6	54.8	36.1	74.0	54.0	19.2	154.2	154.2	22.6	

Remark :

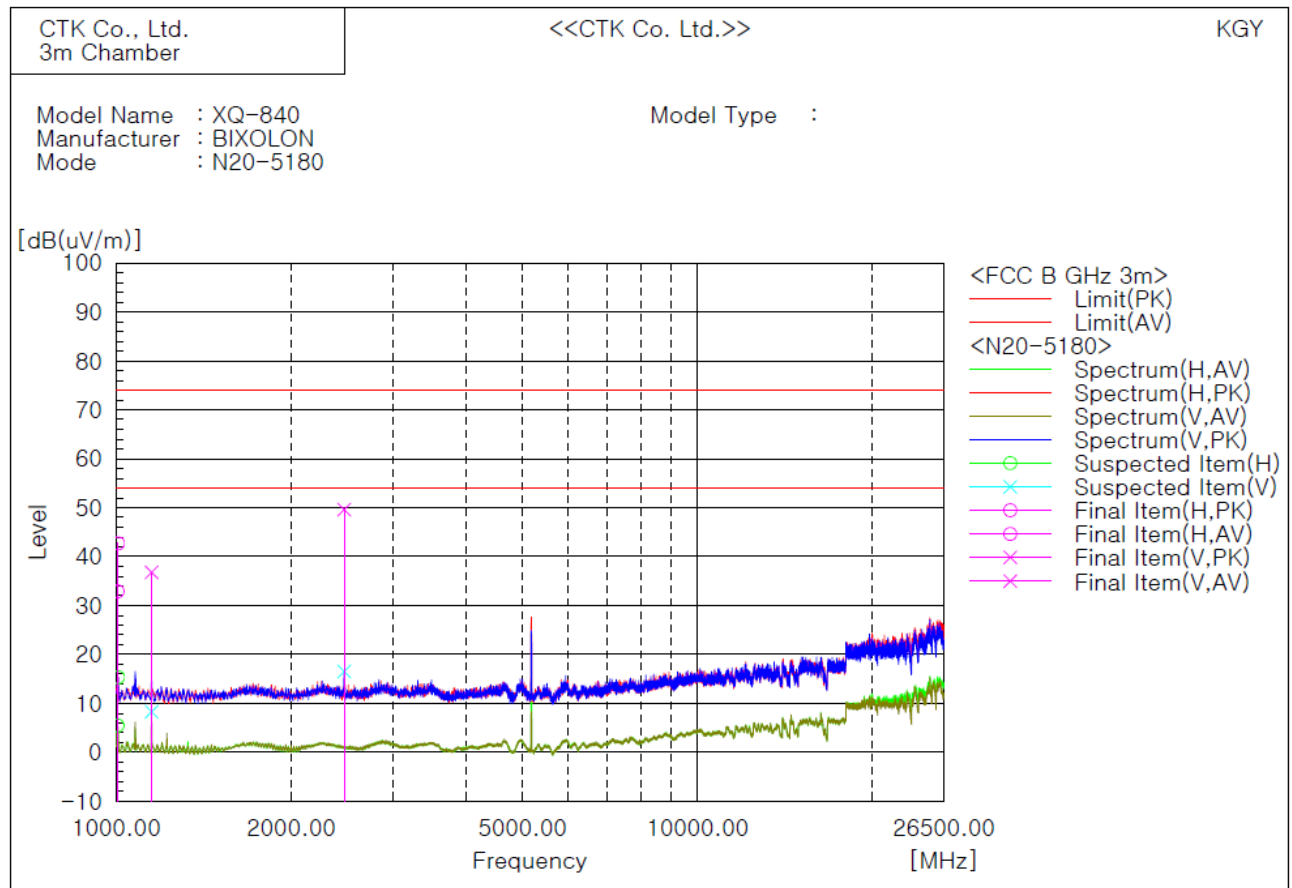
- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11n(HT20), UNII 1 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	53.2	43.3	-10.4	42.7	32.9	74.0	54.0	31.3	21.1	288.4	359.9	
2	1008.500	H	53.2	43.3	-10.5	42.7	32.9	74.0	54.0	31.3	21.1	288.4	30.3	
3	1150.875	V	51.2	45.5	-8.7	49.6	36.8	74.0	54.0	24.4	17.2	274.4	0.1	
4	2468.375	V	51.2	45.5	-1.6	49.6	36.8	74.0	54.0	24.4	17.2	144.9	359.9	

Remark :

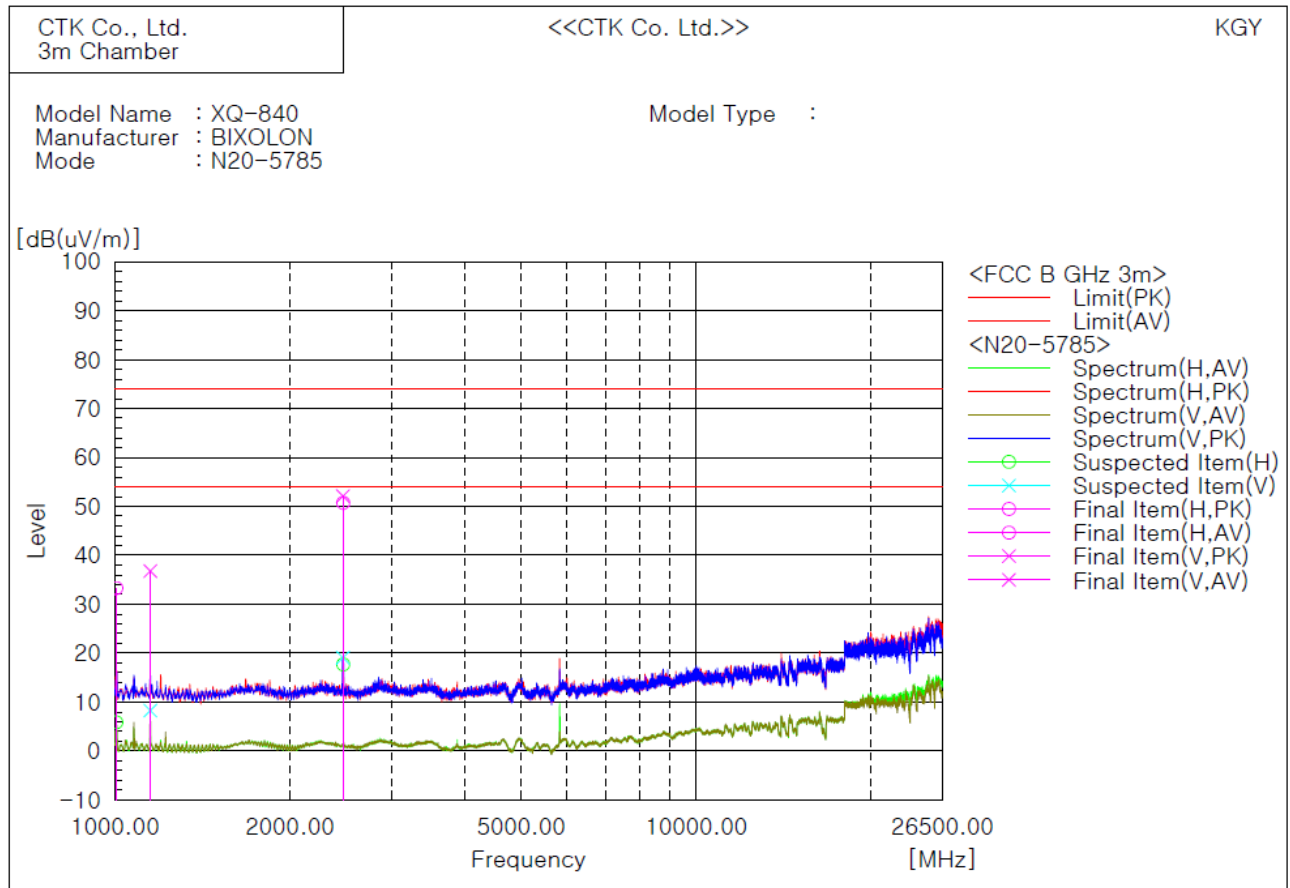
- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11n(HT20), UNII 3 band, middle channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	43.7	43.7	-10.4	33.3	33.3	74.0	54.0	20.7	20.7	285.3	359.9	
2	1150.875	V	45.5	45.5	-8.7	36.8	36.8	74.0	54.0	17.2	17.2	272.9	9.9	
3	2468.375	V	53.7	53.7	-1.6	52.1	52.1	74.0	54.0	21.9	21.9	395.6	0.0	
4	2472.625	H	52.3	52.3	-1.6	50.7	50.7	74.0	54.0	23.3	23.3	285.3	78.5	

Remark :

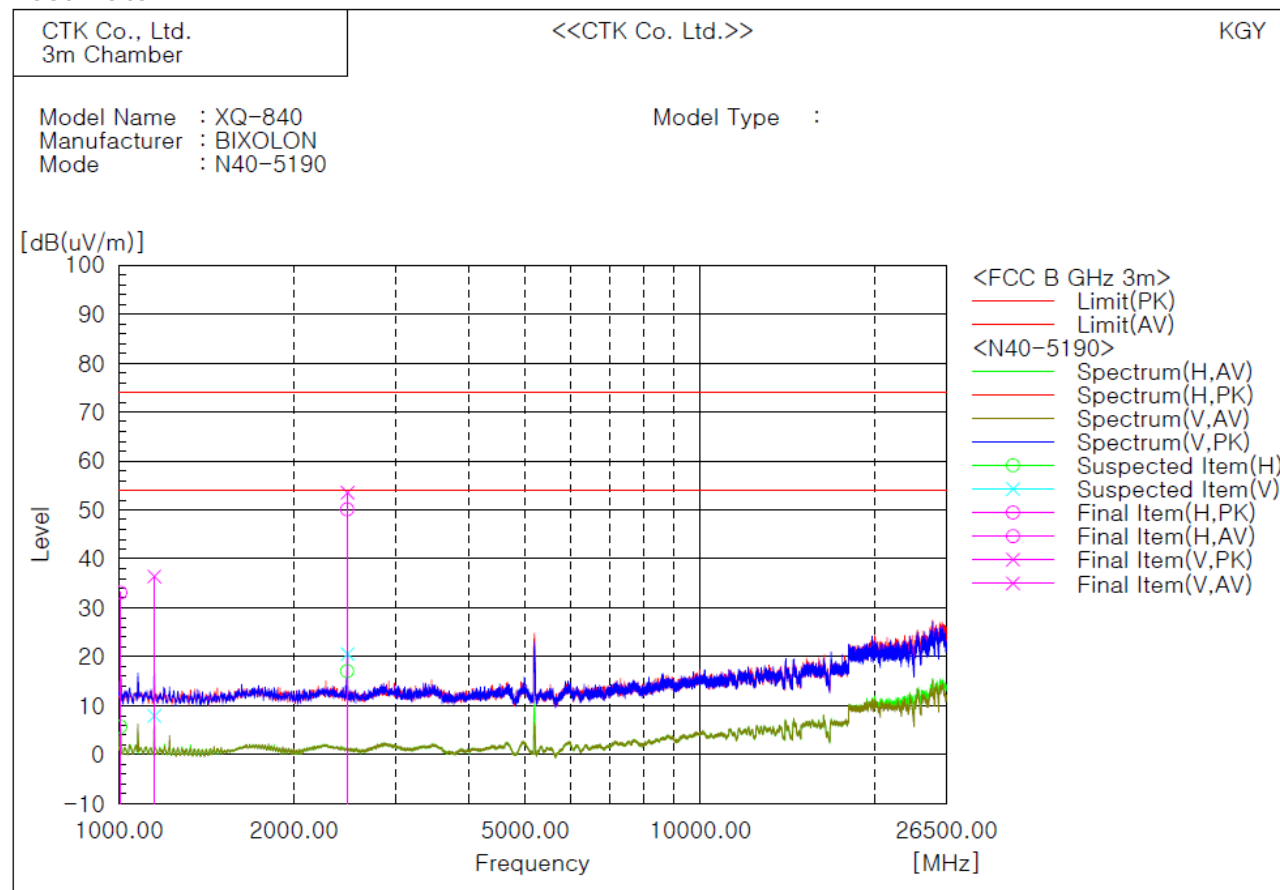
- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11n(HT40), UNII 1 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	43.5	43.5	-10.4	33.1	33.1	74.0	54.0	40.9	20.9	284.5	355.0	
2	1150.875	V	45.1	45.1	-8.7	36.4	36.4	74.0	54.0	37.6	17.6	275.1	216.1	
3	2470.500	H	51.7	51.7	-1.6	50.1	50.1	74.0	54.0	23.9	23.9	284.5	0.0	
4	2474.750	V	55.1	55.1	-1.6	53.5	53.5	74.0	54.0	20.5	20.5	395.8	52.8	

Remark :

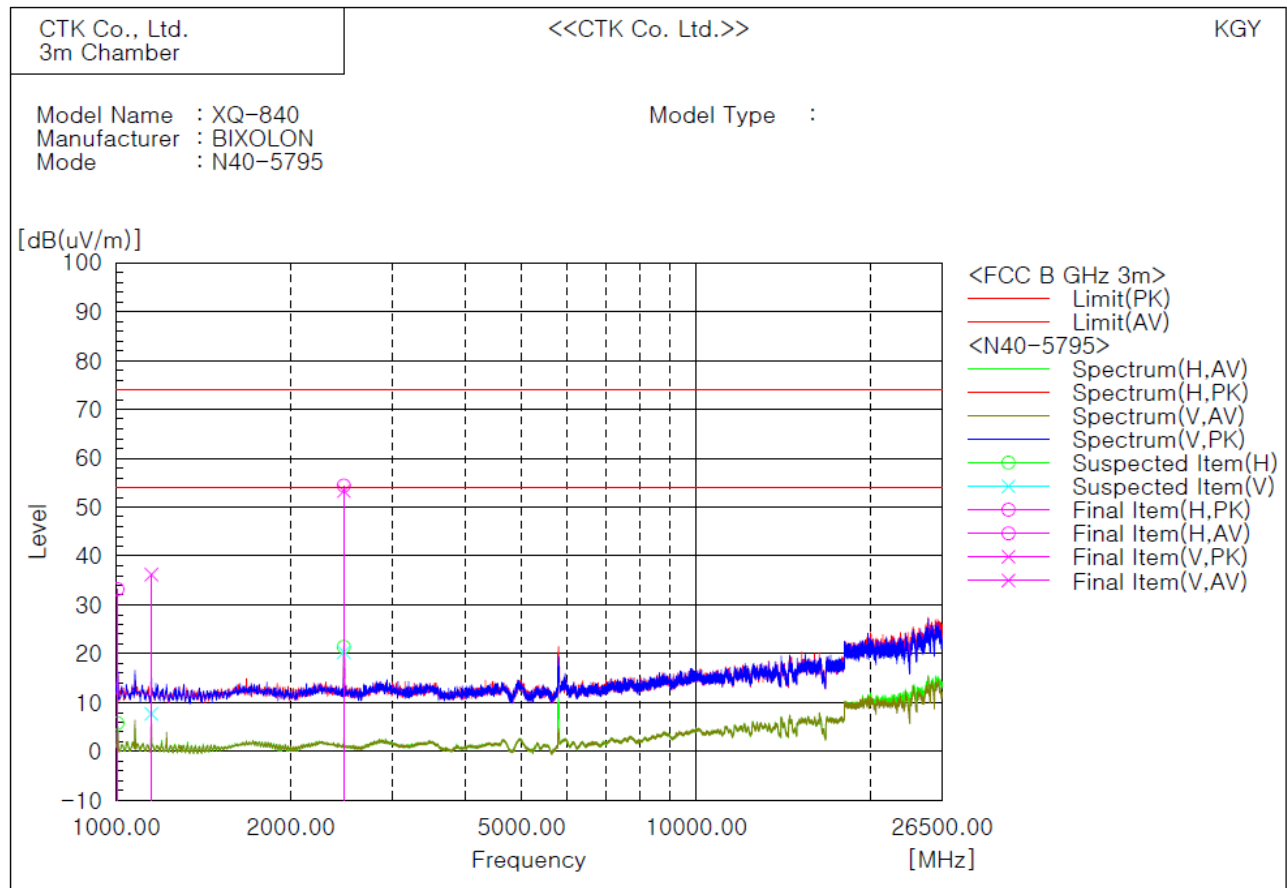
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11n(HT40), UNII 3 band, high channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1008.375	H	43.6	43.6	-10.4	33.2	33.2	74.0	54.0	20.8	20.8	285.9	0.0	
2	1150.875	V	44.9	44.9	-8.7	36.2	36.2	74.0	54.0	17.8	17.8	275.1	81.4	
3	2470.500	H	56.0	56.0	-1.6	54.4	54.4	74.0	54.0	19.6	19.6	285.9	58.5	
4	2470.500	V	54.9	54.9	-1.6	53.3	53.3	74.0	54.0	20.7	20.7	145.6	359.9	

Remark :

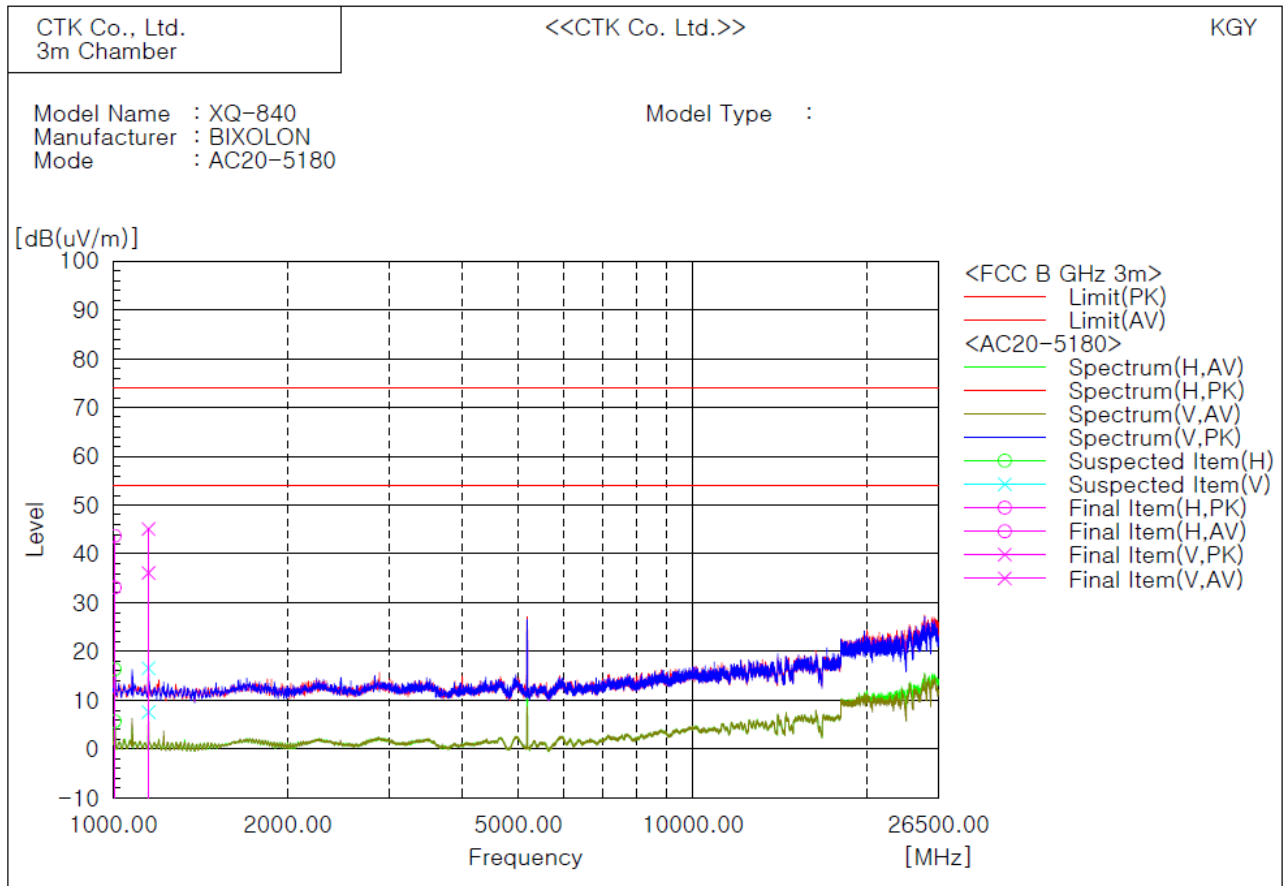
- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT20), UNII 1 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	54.1	43.5	-10.4	43.7	33.1	74.0	54.0	30.3	20.9	285.3	299.7	
2	1006.375	H	53.8	43.5	-10.4	43.1	33.1	74.0	54.0	28.9	20.9	285.3	2.9	
3	1150.875	V	53.8	44.8	-8.7	45.1	36.1	74.0	54.0	28.9	17.9	274.8	84.0	
4	1150.875	V	53.8	44.8	-8.7	45.1	36.1	74.0	54.0	28.9	17.9	274.8	345.4	

Remark :

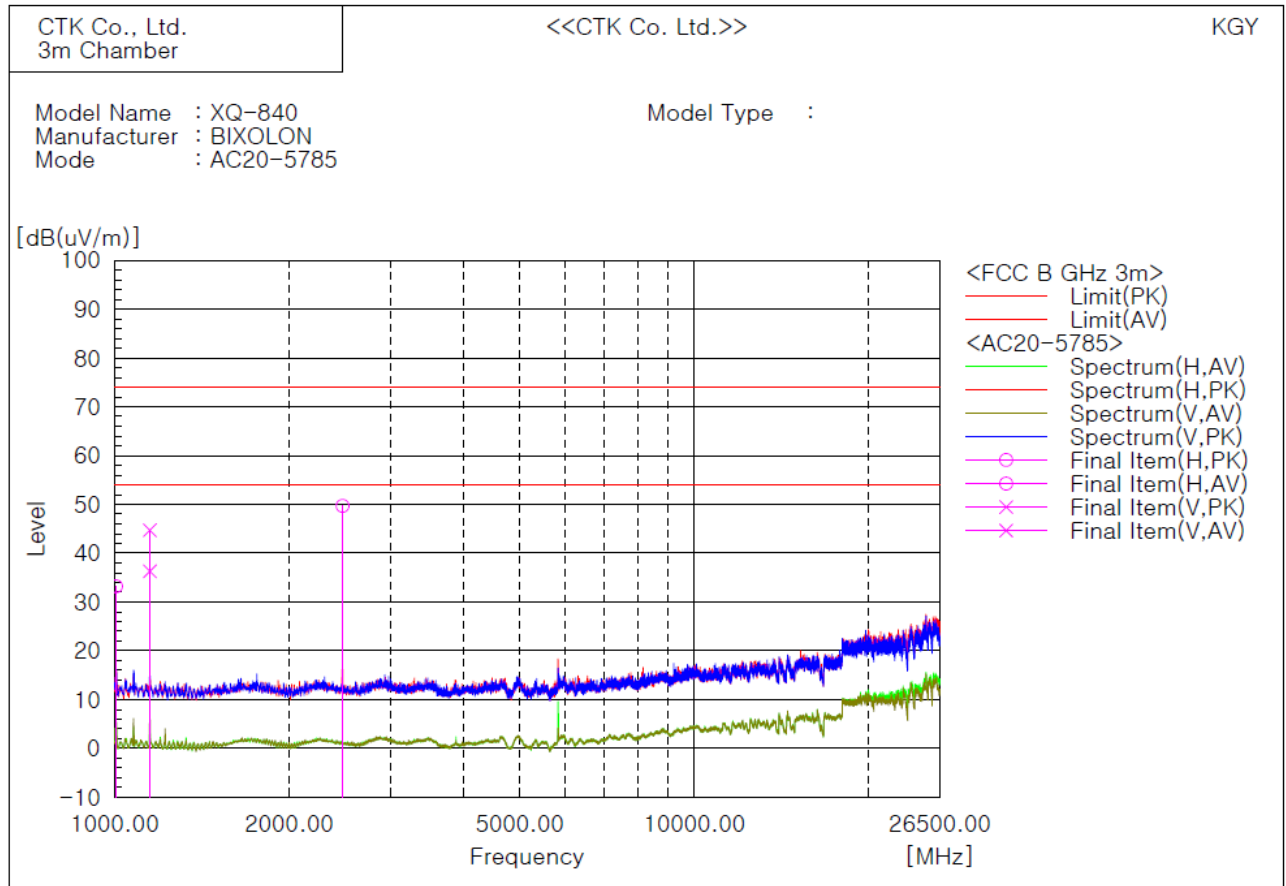
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT20), UNII 3 band, middle channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1008.375	H	53.4	43.6	-10.4	43.0	33.2	74.0	54.0	29.3	20.8	285.7	355.3	
2	1150.875	V	53.4	45.0	-8.7	44.7	36.3	74.0	54.0	29.3	17.7	274.7	240.1	
4	2474.750	H	51.3	43.6	-1.6	49.7	33.2	74.0	54.0	24.3	20.8	285.7	162.6	

Remark :

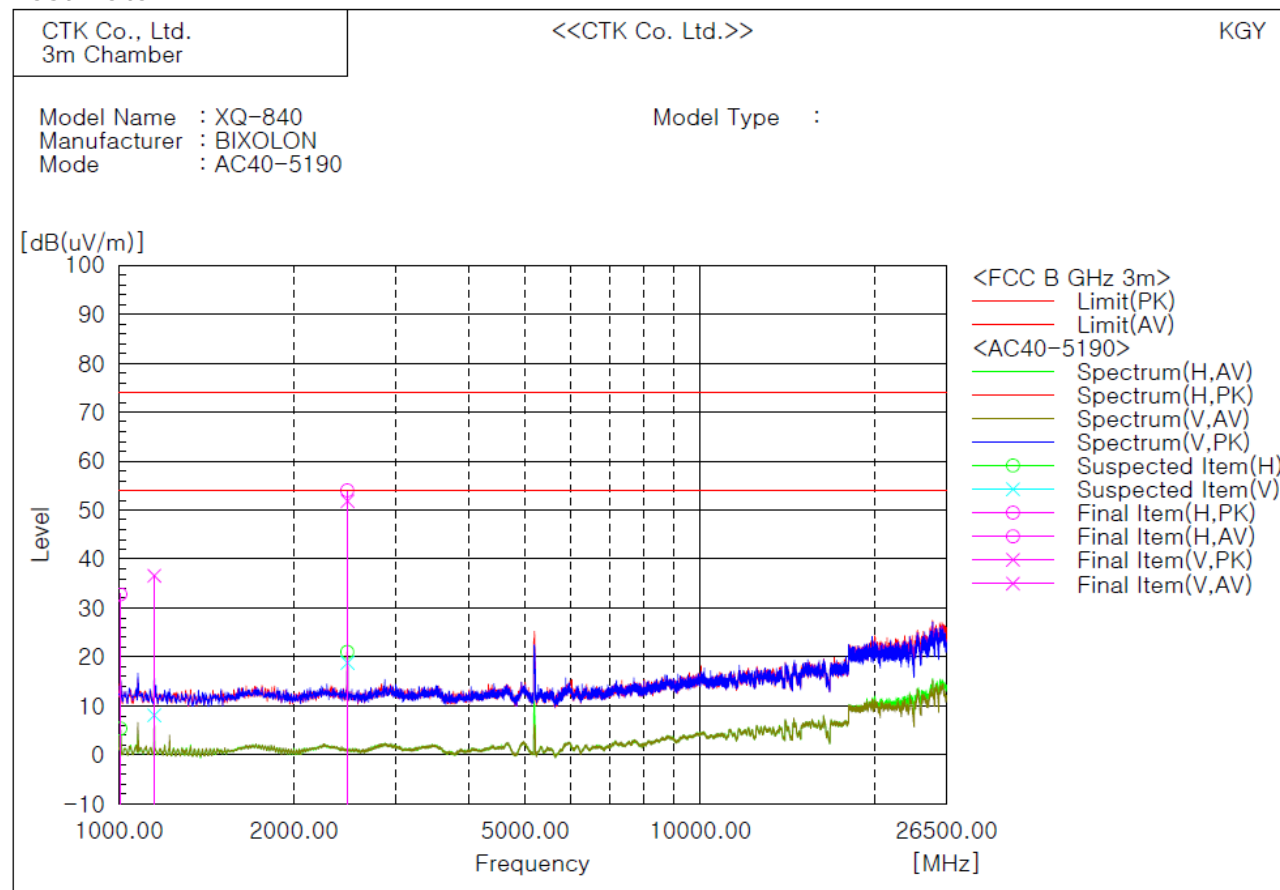
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT40), UNII 1 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	43.2	43.2	-10.4	32.8	32.8	74.0	54.0	20.0	21.2	285.9	2.7	
2	1150.875	V	45.3	45.3	-8.7	36.6	36.6	74.0	54.0	20.0	17.4	275.5	4.9	
3	2472.625	H	55.6	55.6	-1.6	54.0	54.0	74.0	54.0	20.0	20.0	285.9	317.6	
4	2474.750	V	53.4	53.4	-1.6	51.8	51.8	74.0	54.0	22.2	22.2	393.8	254.1	

Remark :

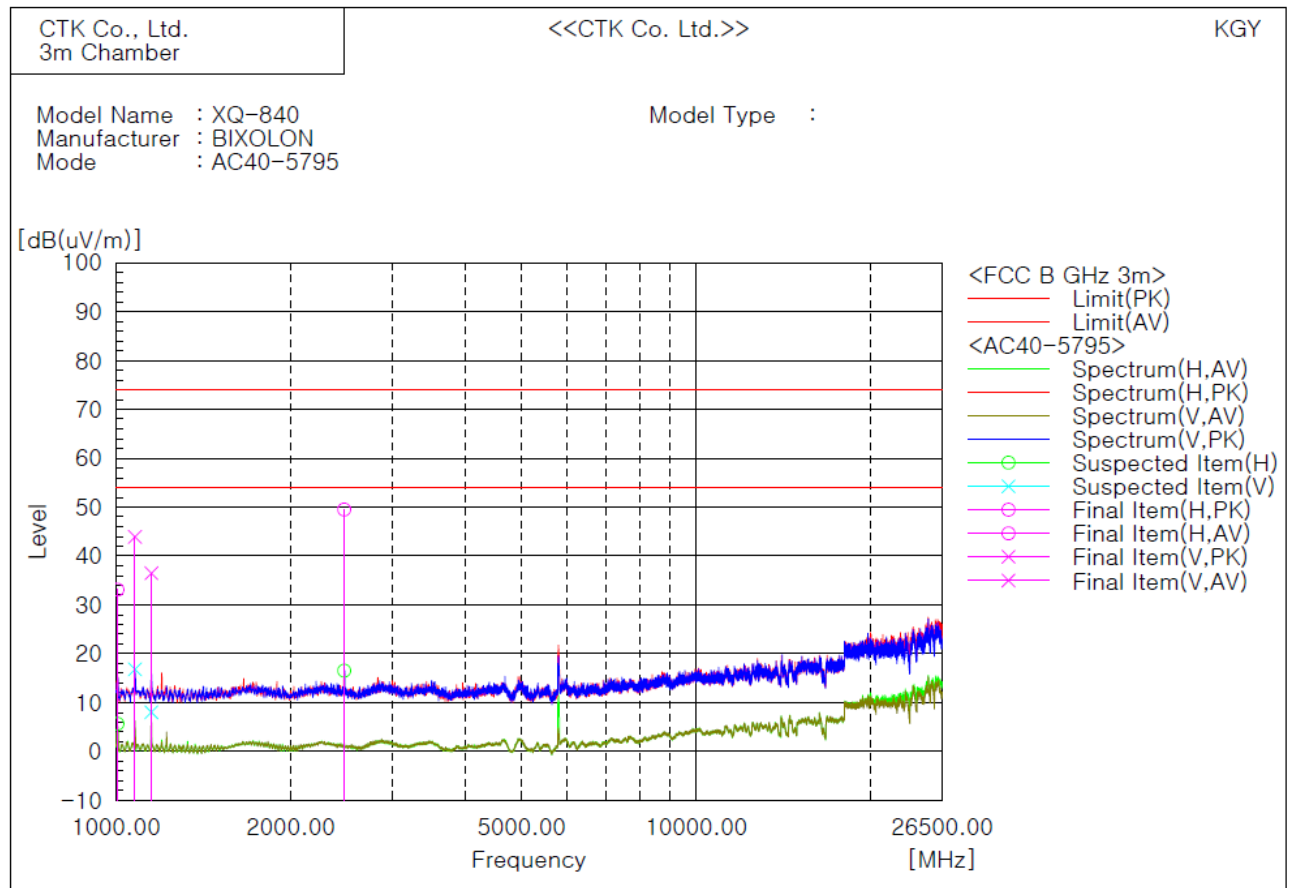
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT40), UNII 3 band, high channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	54.3	43.5	-10.4	43.9	33.1	74.0	54.0	30.1	20.9	286.2	295.3	
2	1078.625	V	54.3	43.5	-10.4	43.9	33.1	74.0	54.0	30.1	20.9	275.1	5.0	
3	1150.875	V	54.3	43.5	-10.4	43.9	33.1	74.0	54.0	30.1	20.9	275.1	286.5	
4	2474.750	H	51.1	45.2	-1.6	49.5	36.5	74.0	54.0	24.5	17.5	404.7	0.1	

Remark :

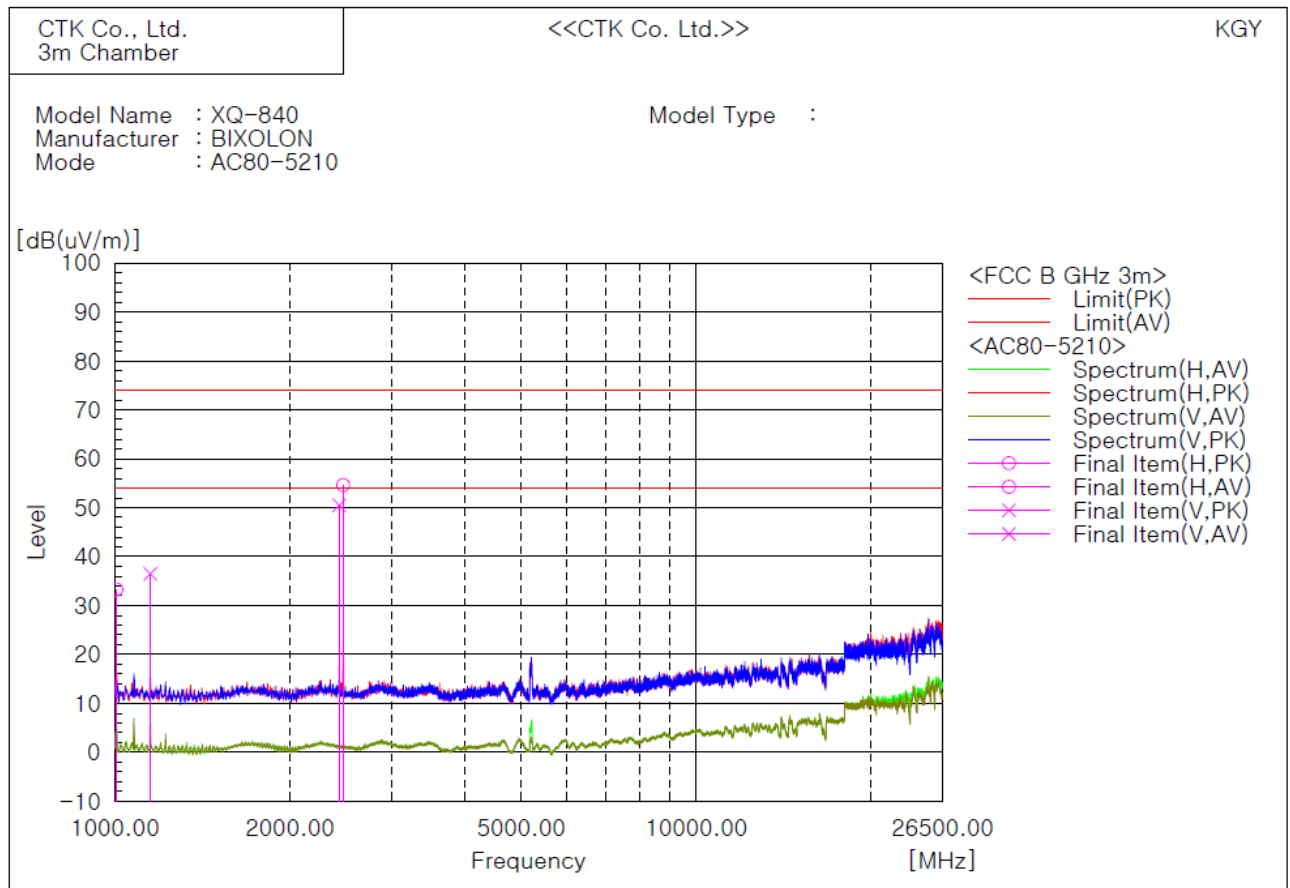
- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT80), UNII 1 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	43.7	43.7	-10.4	33.3	33.3	74.0	54.0	20.7	20.7	284.5	0.0	
2	1150.875	V	45.2	45.2	-8.7	36.5	36.5	74.0	54.0	17.5	17.5	276.0	0.0	
3	2434.375	V	52.4	52.4	-1.9	50.5	50.5	74.0	54.0	23.5	23.5	394.6	0.0	
4	2472.625	H	56.2	56.2	-1.6	54.6	54.6	74.0	54.0	19.4	19.4	284.5	74.2	

Remark :

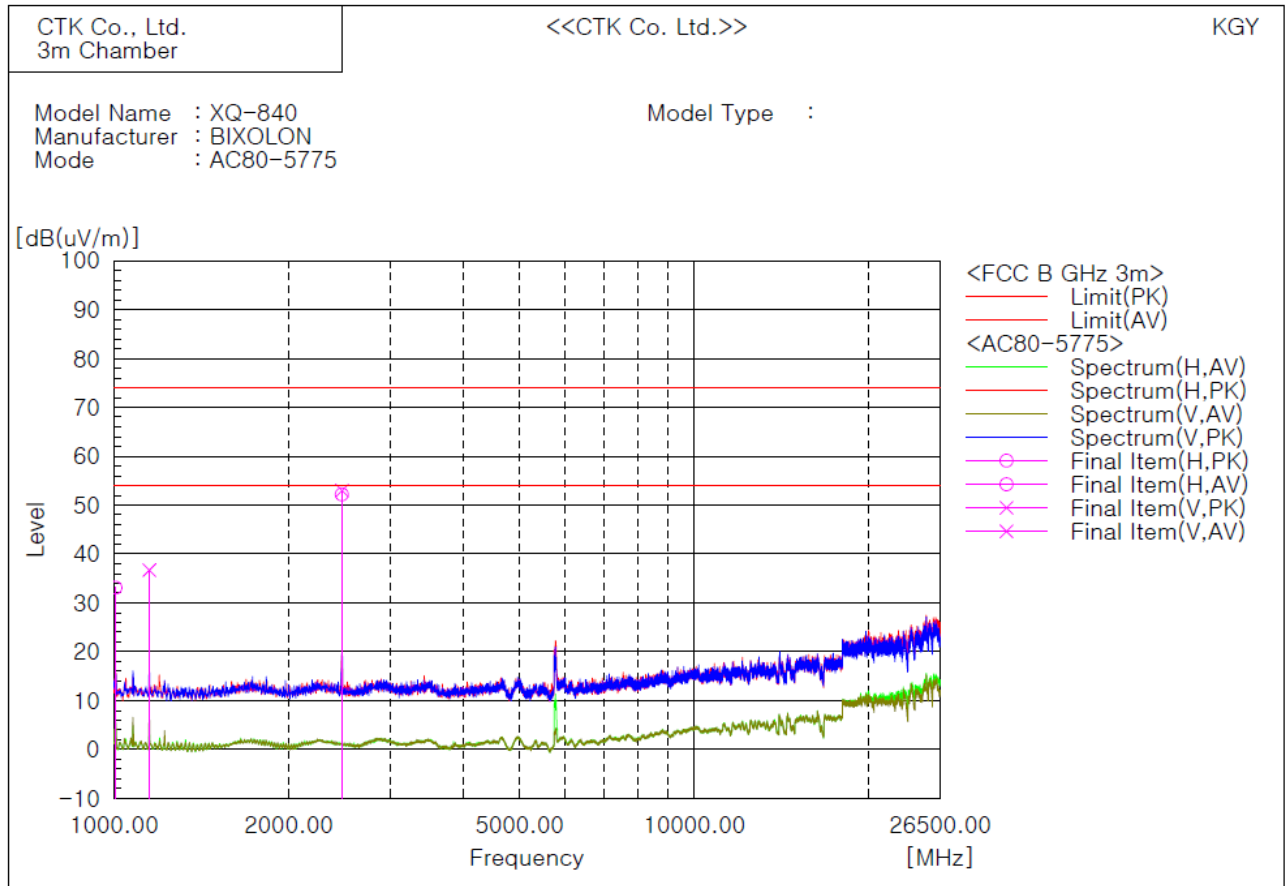
- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT80), UNII 3 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	1006.375	H	43.5	-10.4	-10.4	33.1	74.0	74.0	54.0	20.9	285.8	355.6		
2	1150.875	V	45.4	-8.7	-8.7	36.7	74.0	74.0	54.0	17.3	276.3	329.4		
3	2470.500	H	53.8	-1.6	-1.6	52.2	74.0	74.0	54.0	21.8	285.8	275.0		
4	2472.625	V	54.6	-1.6	-1.6	53.0	74.0	74.0	54.0	21.0	146.0	99.9		

Remark :

- The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
- Result = Reading + c.f(Correction factor)
- Correction factor = Antenna factor + Cable loss - Amp Gain

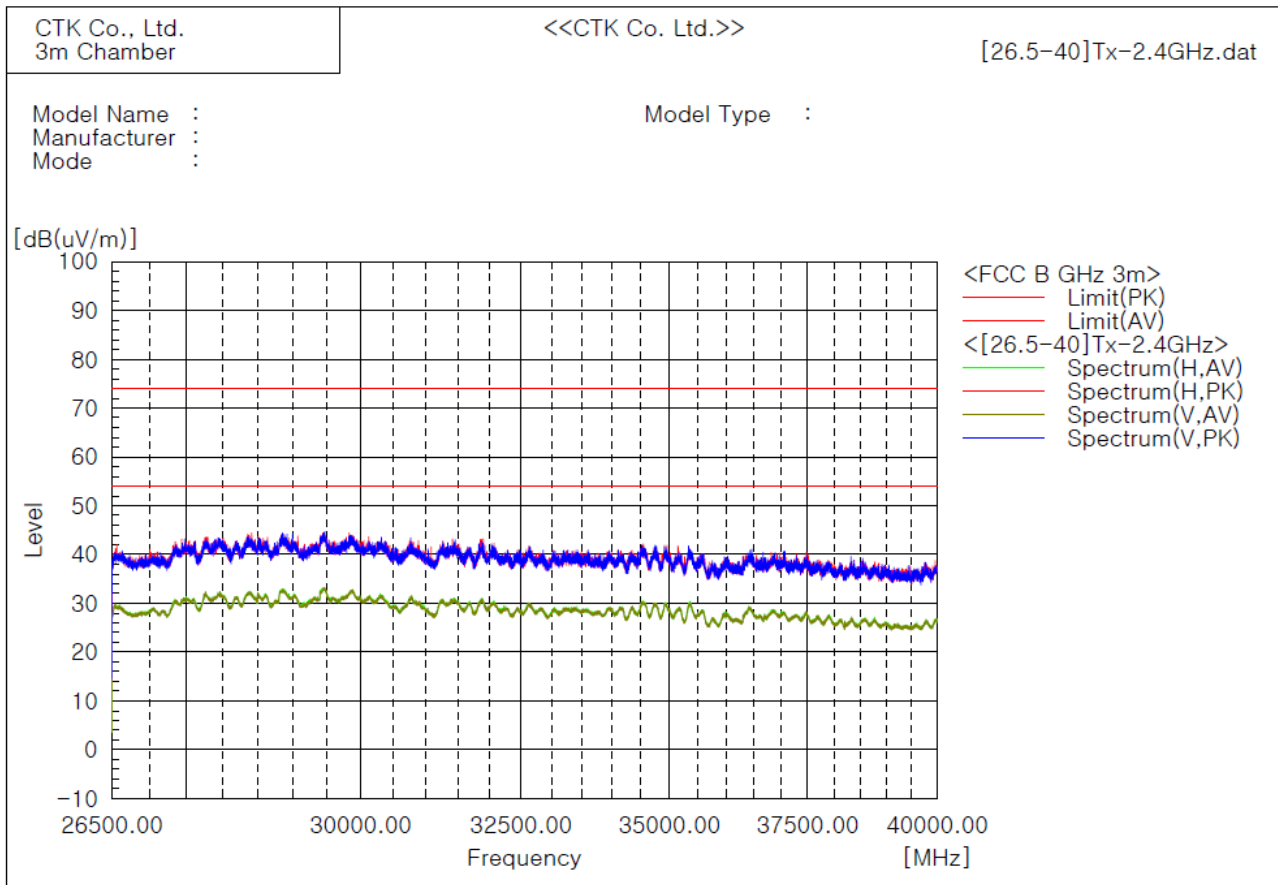
3) above 26.5 GHz to 40 GHz

Test mode : 802.11a, UNII 1 band, low channel (Worst case)

The requirements are:

☒ Complies

Test Data



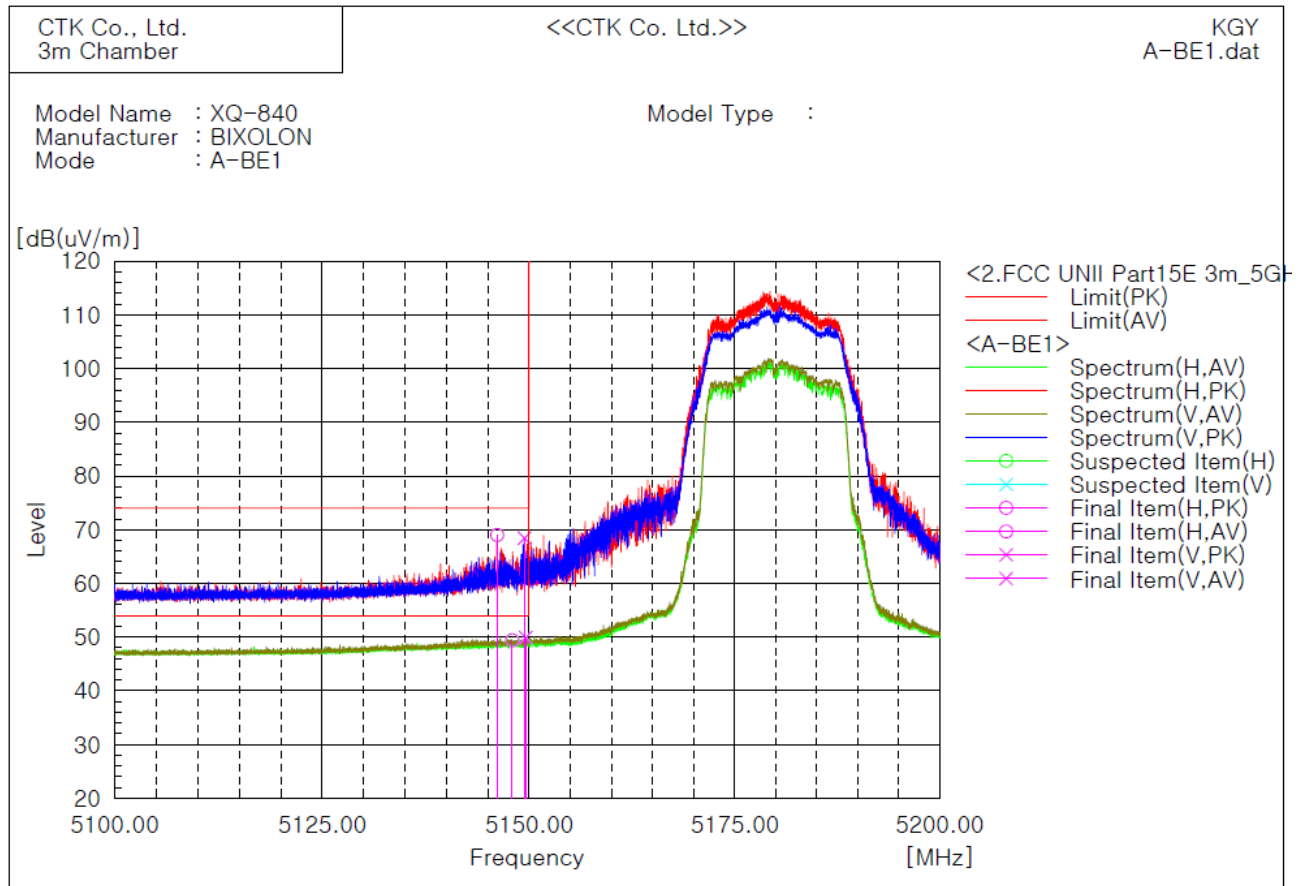
Result : There are more than 20 dB of margin compared to the reference value.

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

4) Restricted Frequency Bands

Test mode : 802.11a, UNII 1 band, low channel



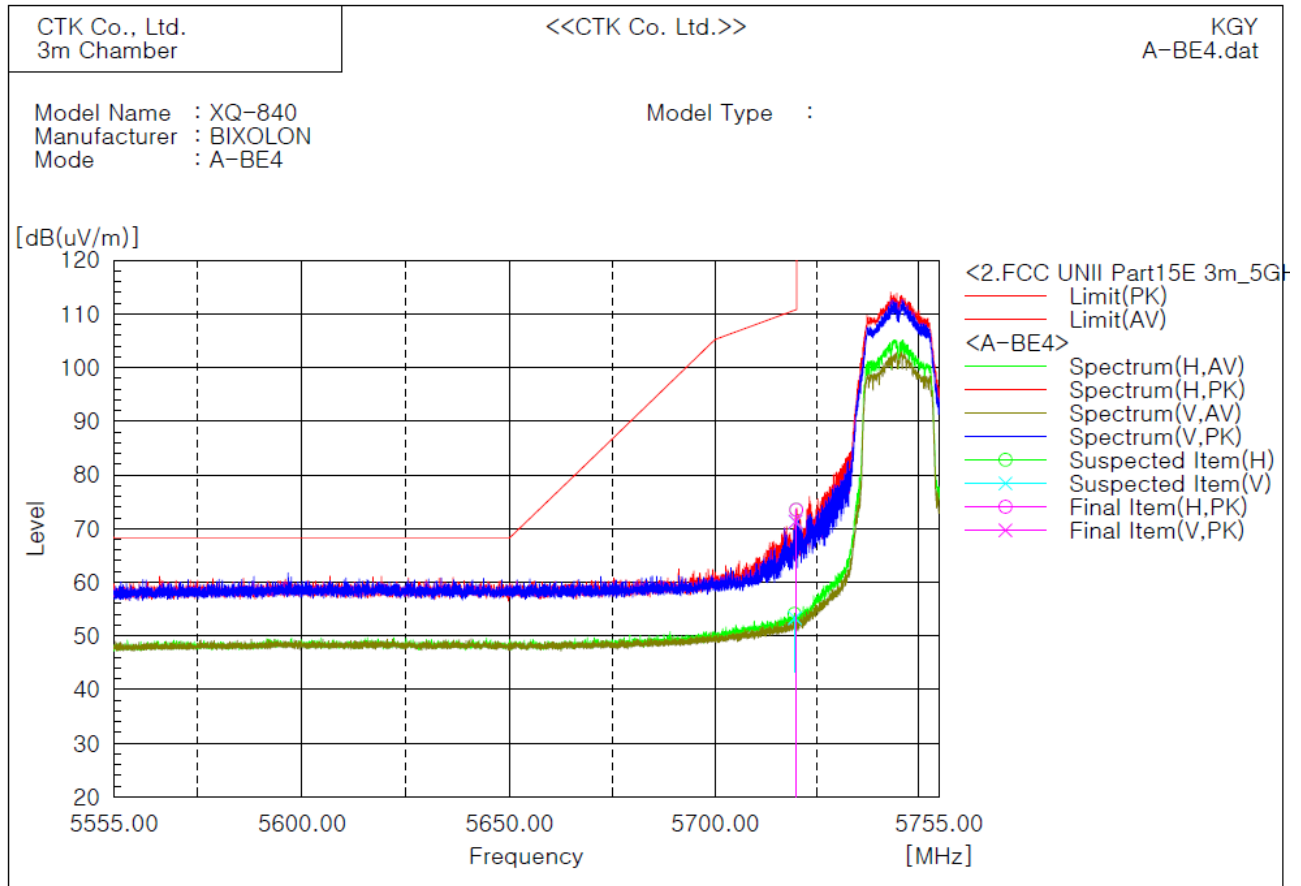
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	5146.150	H	57.6	37.9	11.4	69.0	49.4	74.0	54.0	5.0	4.6	234.7	65.7	
2	5147.976	H			11.5			74.0	54.0			99.9	359.9	
3	5149.451	V	56.9	38.4	11.5	68.4	49.9	74.0	54.0	5.6	4.1	464.0	27.0	
4	5149.601	V						74.0	54.0			464.0	0.0	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11a, UNII 3 band, low channel



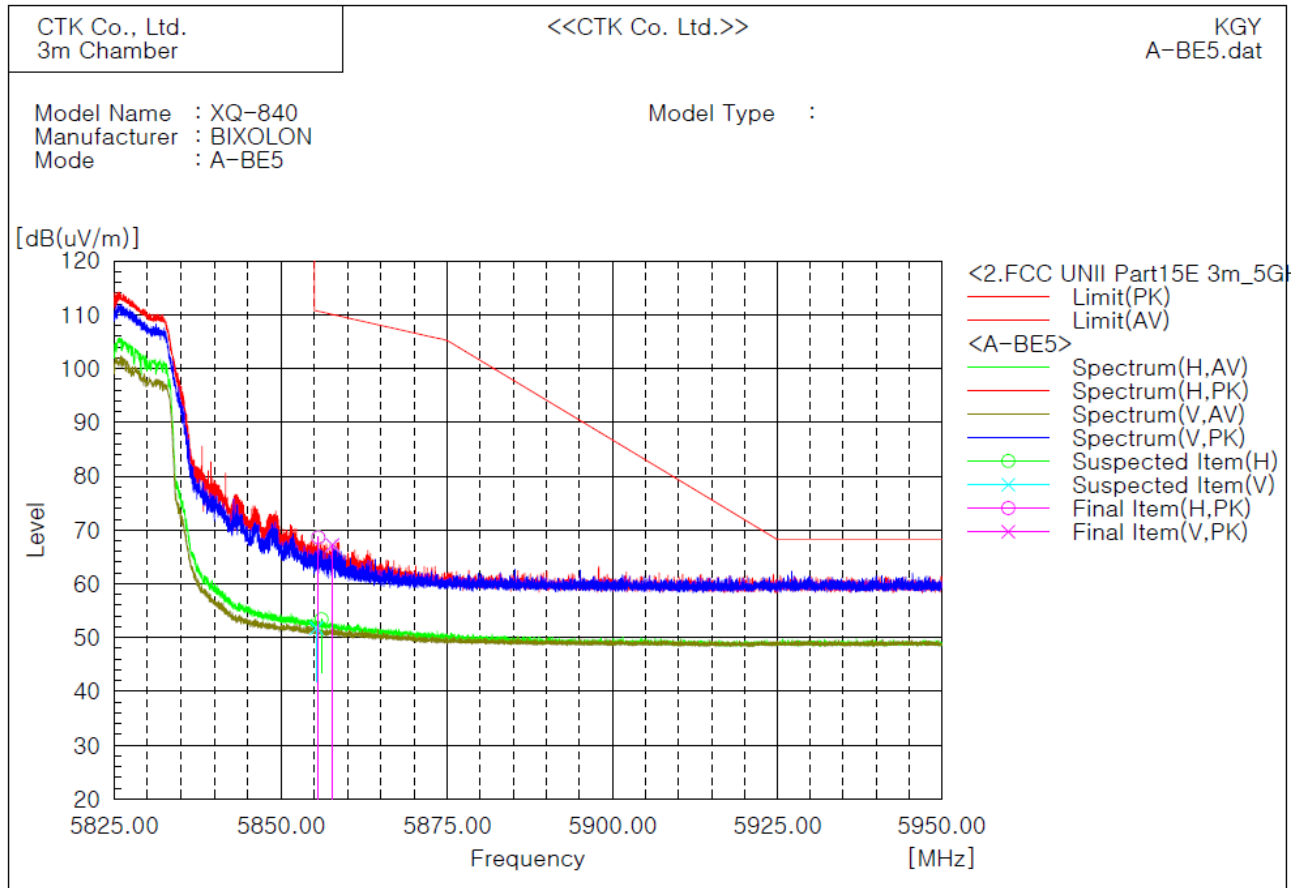
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5719.925	H	60.1	13.4	73.5	110.8	37.3	99.8	359.9	
2	5719.725	V	57.9	13.4	71.3	110.7	39.4	344.9	0.0	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.555 GHz to 5.650 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11a, UNII 3 band, high channel



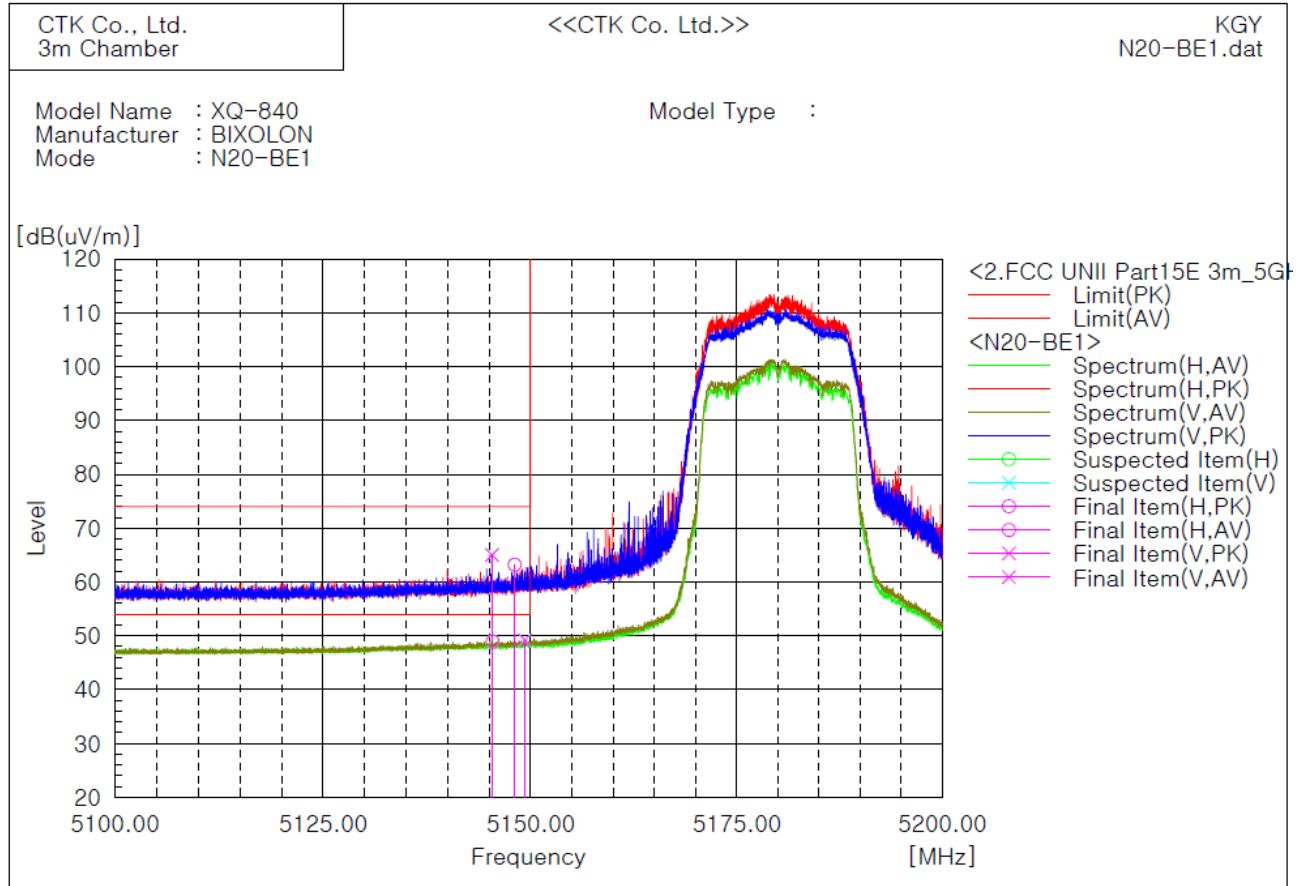
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5855.625	H	54.7	13.9	68.6	110.6	42.0	234.6	0.0	
2	5857.750	V	53.3	13.9	67.2	110.0	42.8	225.8	24.7	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.925 GHz to 5.950 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11n(HT20), UNII 1 band, low channel



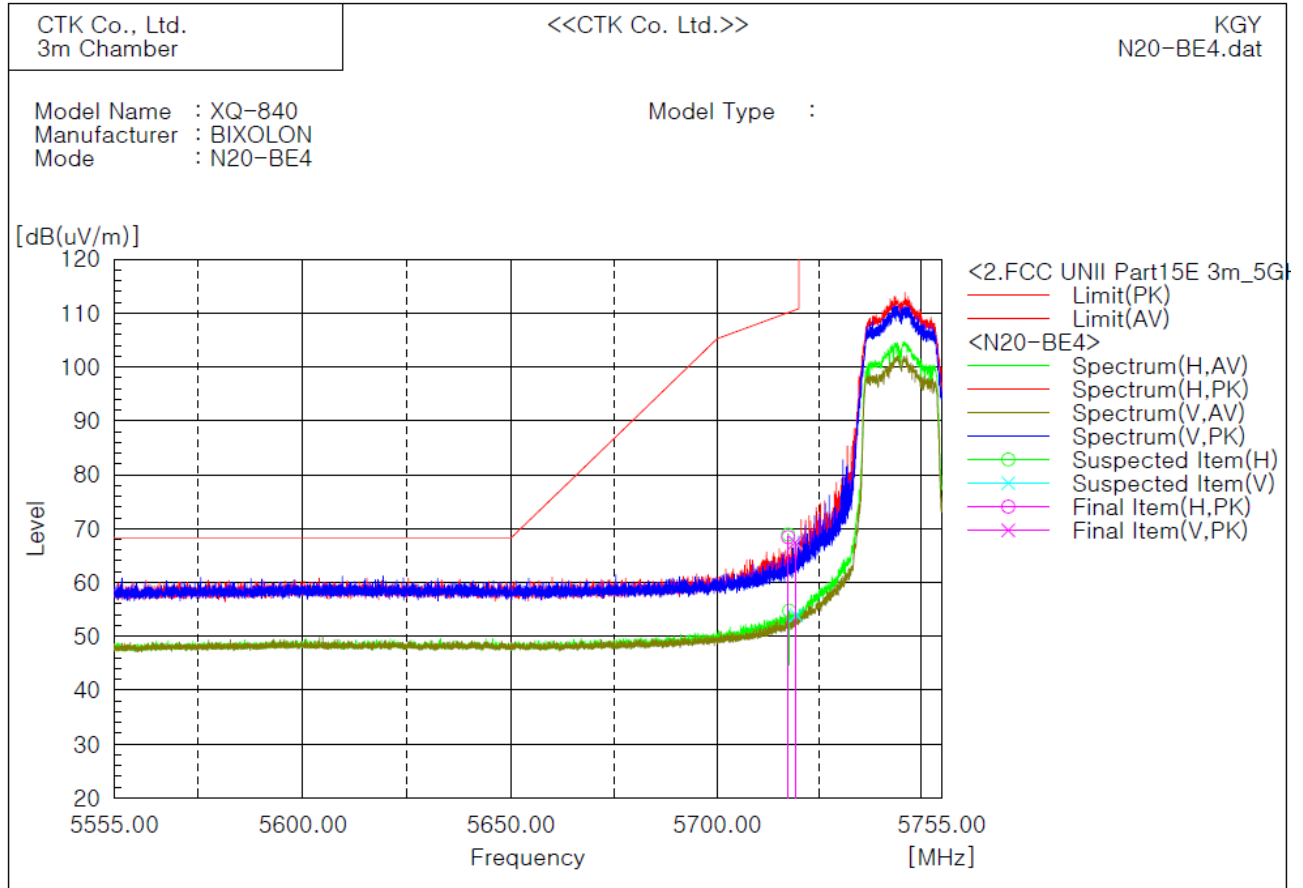
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading AV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	5148.101	H	51.7		11.5	63.2		74.0	54.0	10.8		235.1	68.6	
2	5145.438	H		37.5	11.4		48.9	74.0	54.0		5.1	99.8	359.9	
3	5145.351	V	53.6		11.4	65.0		74.0	54.0	9.0		464.0	336.5	
4	5149.313	V		37.7	11.5		49.2	74.0	54.0		4.8	345.4	0.0	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11n(HT20), UNII 3 band, low channel



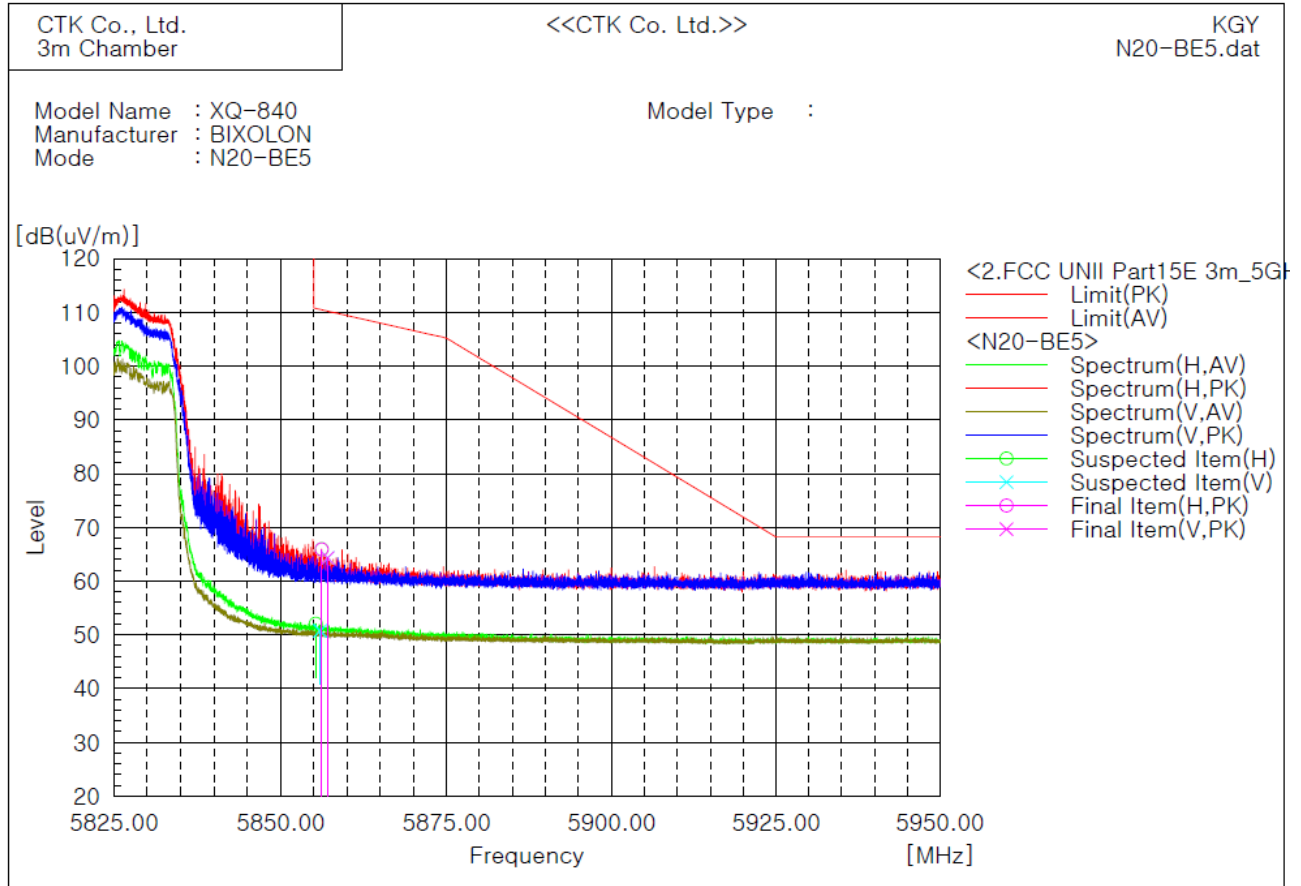
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5717.375	H	55.0	13.4	68.4	110.1	41.7	99.8	359.9	
2	5719.075	V	54.0	13.4	67.4	110.5	43.1	343.2	10.9	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.555 GHz to 5.650 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11n(HT20), UNII 3 band, high channel



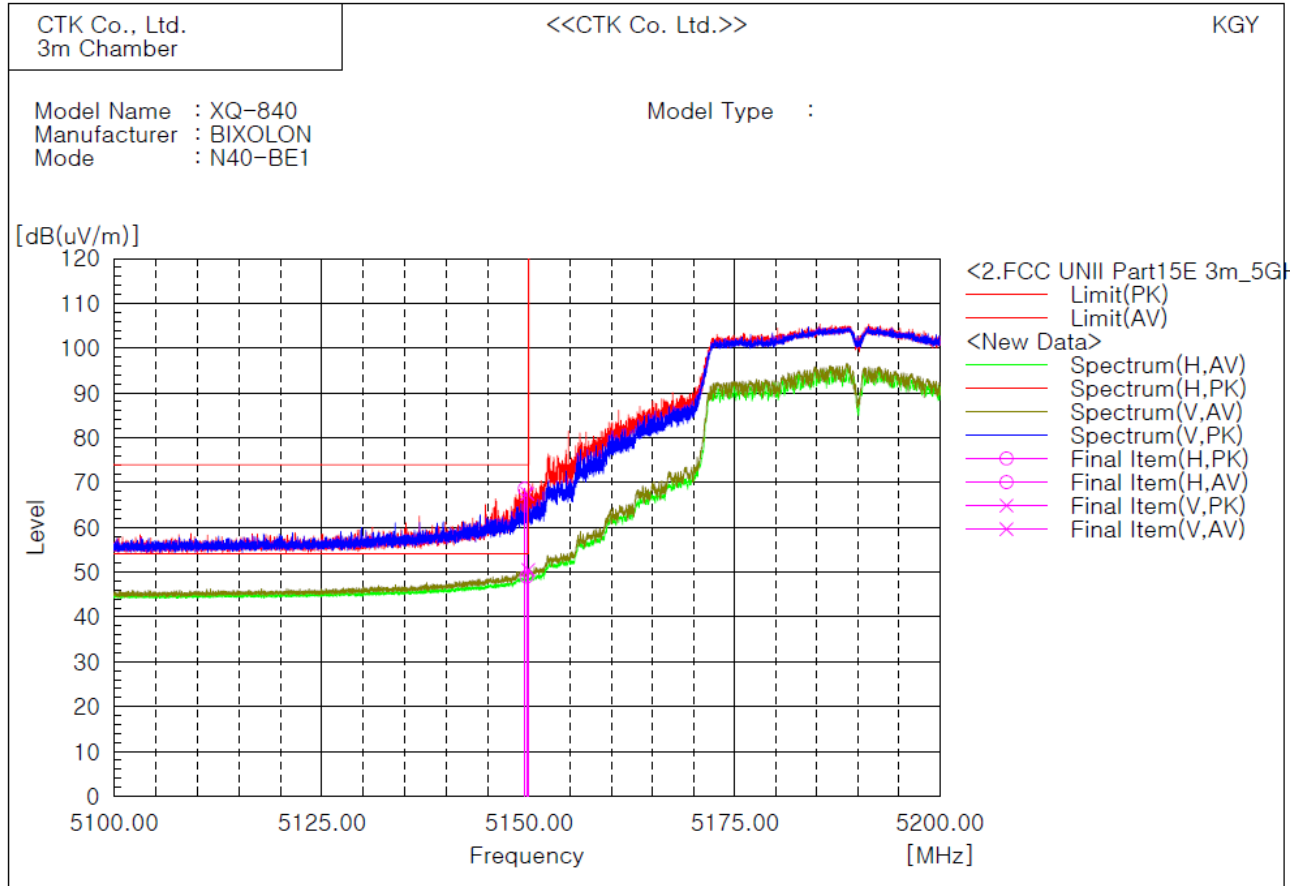
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5856.203	H	52.0	13.9	65.9	110.5	44.6	235.4	0.0	
2	5857.094	V	50.4	13.9	64.3	110.2	45.9	99.8	111.9	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.925 GHz to 5.950 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11n(HT40), UNII 1 band, low channel



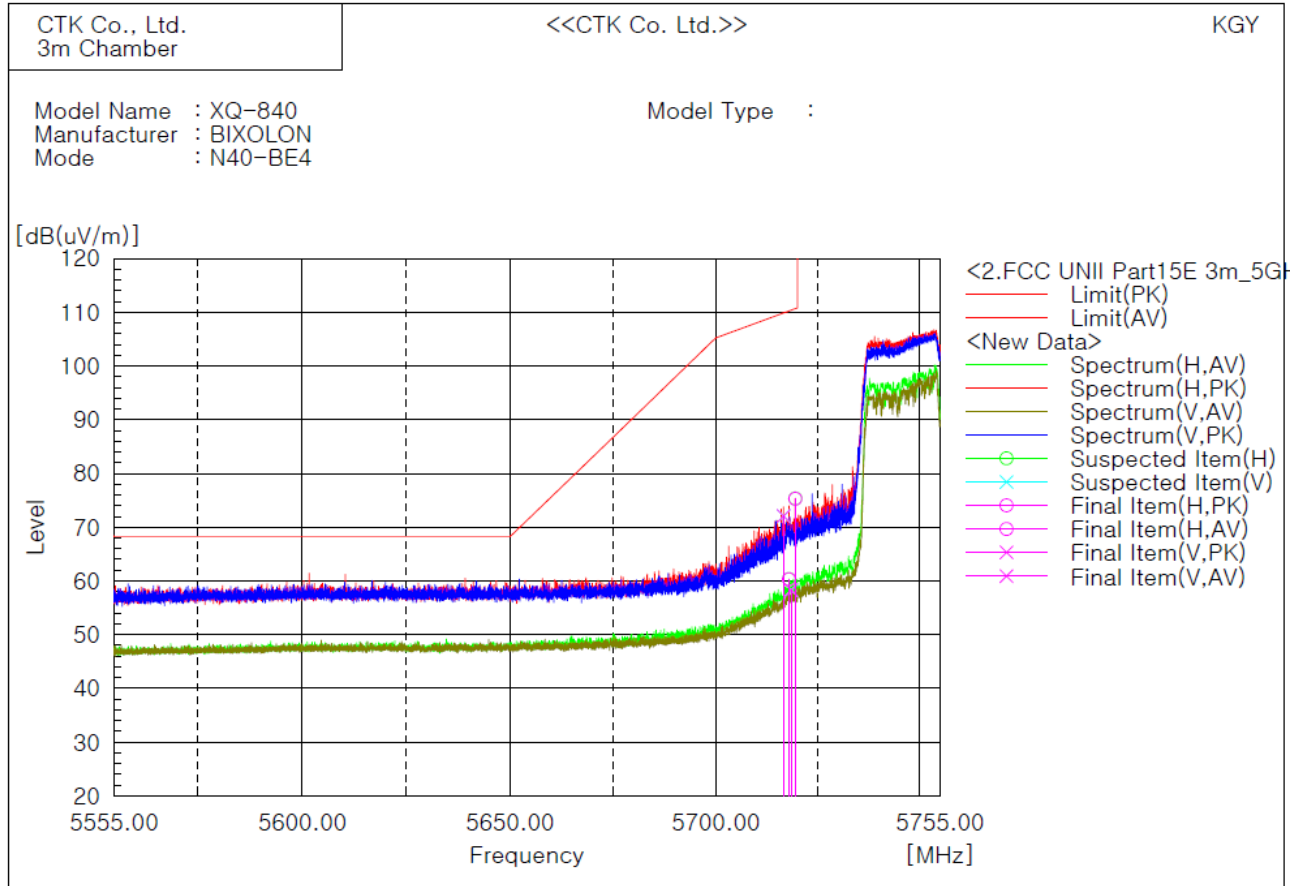
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	5149.500	H	57.1		11.5	68.6		74.0	54.0	5.4		354.1	38.5	
2	5149.726	H		37.5	11.5		49.0	74.0	54.0		5.0	235.6	63.4	
3	5149.800	V	56.0		11.5	67.5		74.0	54.0	6.5		225.6	61.8	
4	5149.938	V		39.0	11.5		50.5	74.0	54.0		3.5	345.9	0.1	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11n(HT40), UNII 3 band, low channel



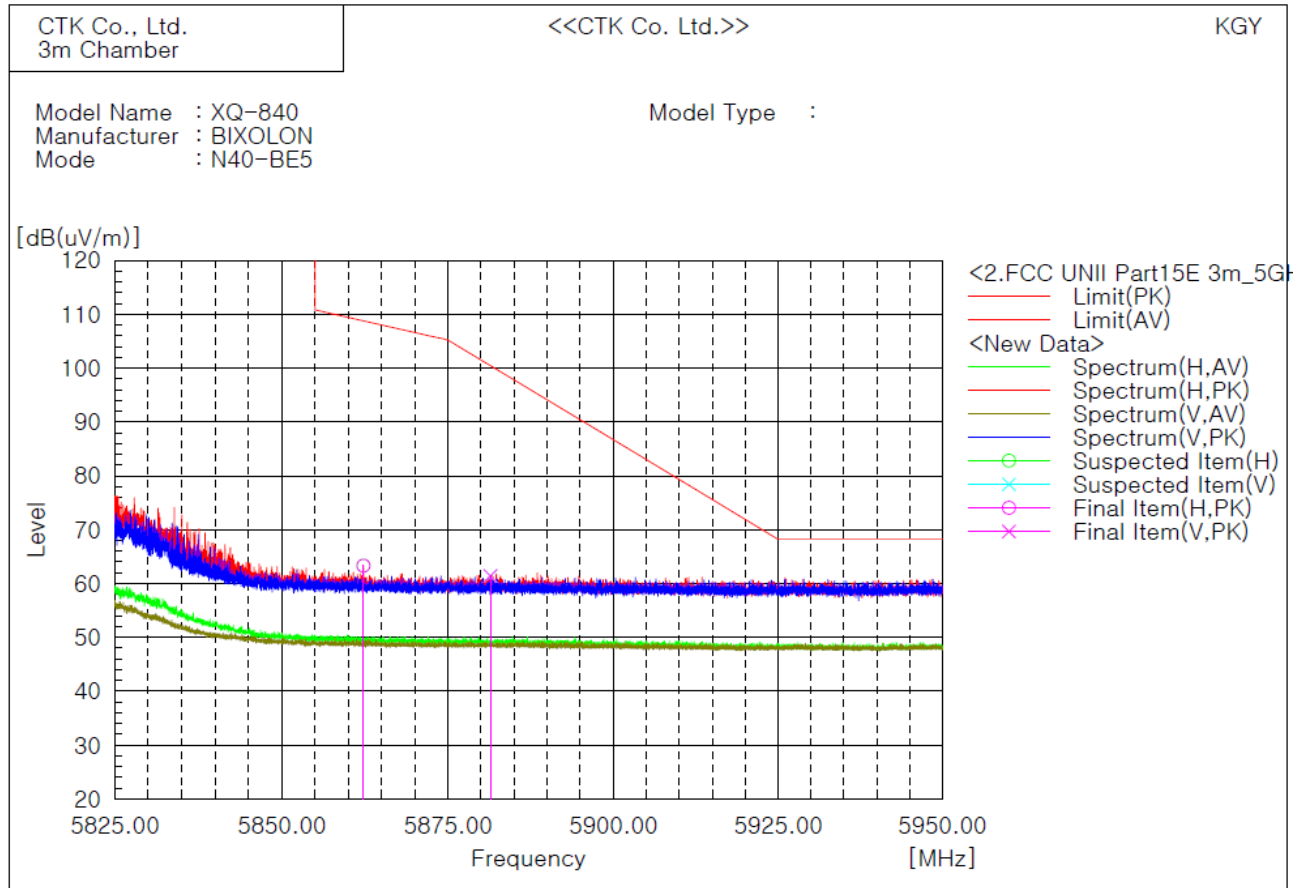
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	5719.500	H	61.9	46.9	13.4	75.3	60.3	110.7	110.2	35.4	-60.3	99.9	0.0	
2	5717.925	H	58.7	44.9	13.4	72.1	58.3	109.9	109.4	37.8	-58.3	343.5	359.9	
3	5716.625	V												
4	5718.450	V												

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.555 GHz to 5.650 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11n(HT40), UNII 3 band, high channel



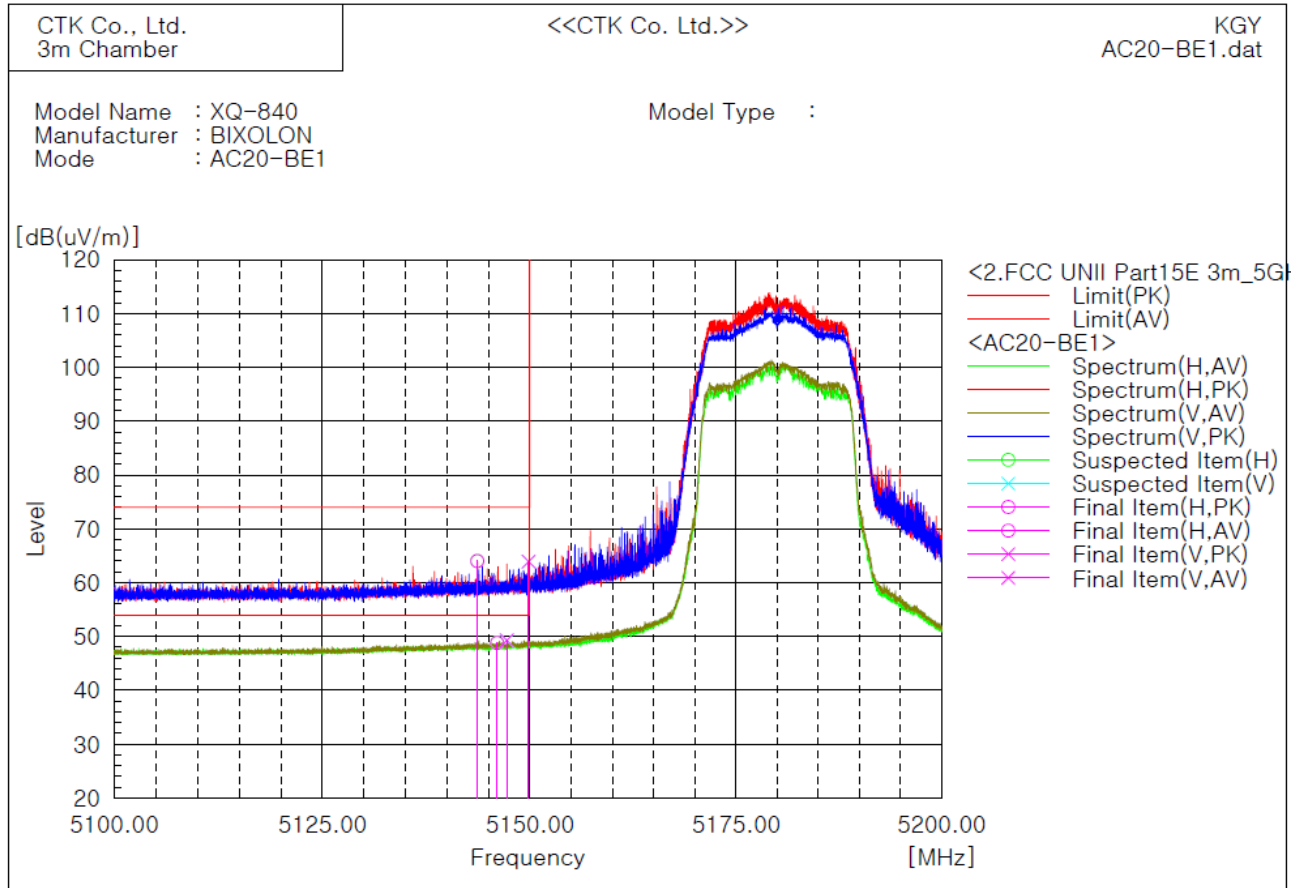
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5862.297	H	49.4	13.9	63.3	108.8	45.5	100.0	21.6	
2	5881.422	V	47.5	13.9	61.4	100.4	39.0	345.4	338.2	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.925 GHz to 5.950 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11ac(VHT20), UNII 1 band, low channel



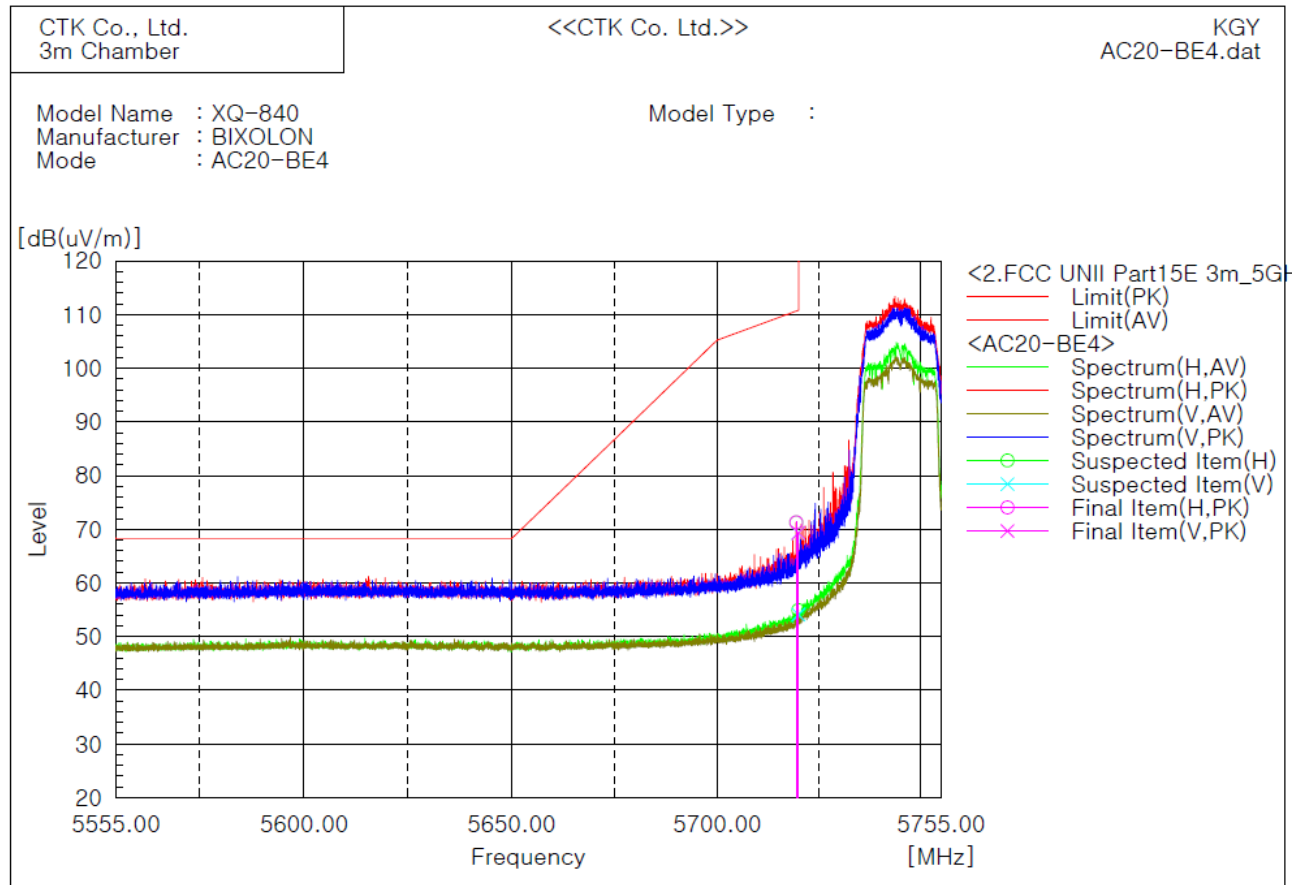
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading AV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	5143.663	H	52.6		11.4	64.0		74.0	54.0	10.0		235.4	68.1	
2	5146.050	H		37.4	11.4		48.8	74.0	54.0		5.2	99.8	0.0	
3	5147.226	V		37.8	11.5		49.3	74.0	54.0		4.7	464.2	0.0	
4	5149.863	V	52.4		11.5	63.9		74.0	54.0	10.1		224.9	2.3	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT20), UNII 3 band, low channel



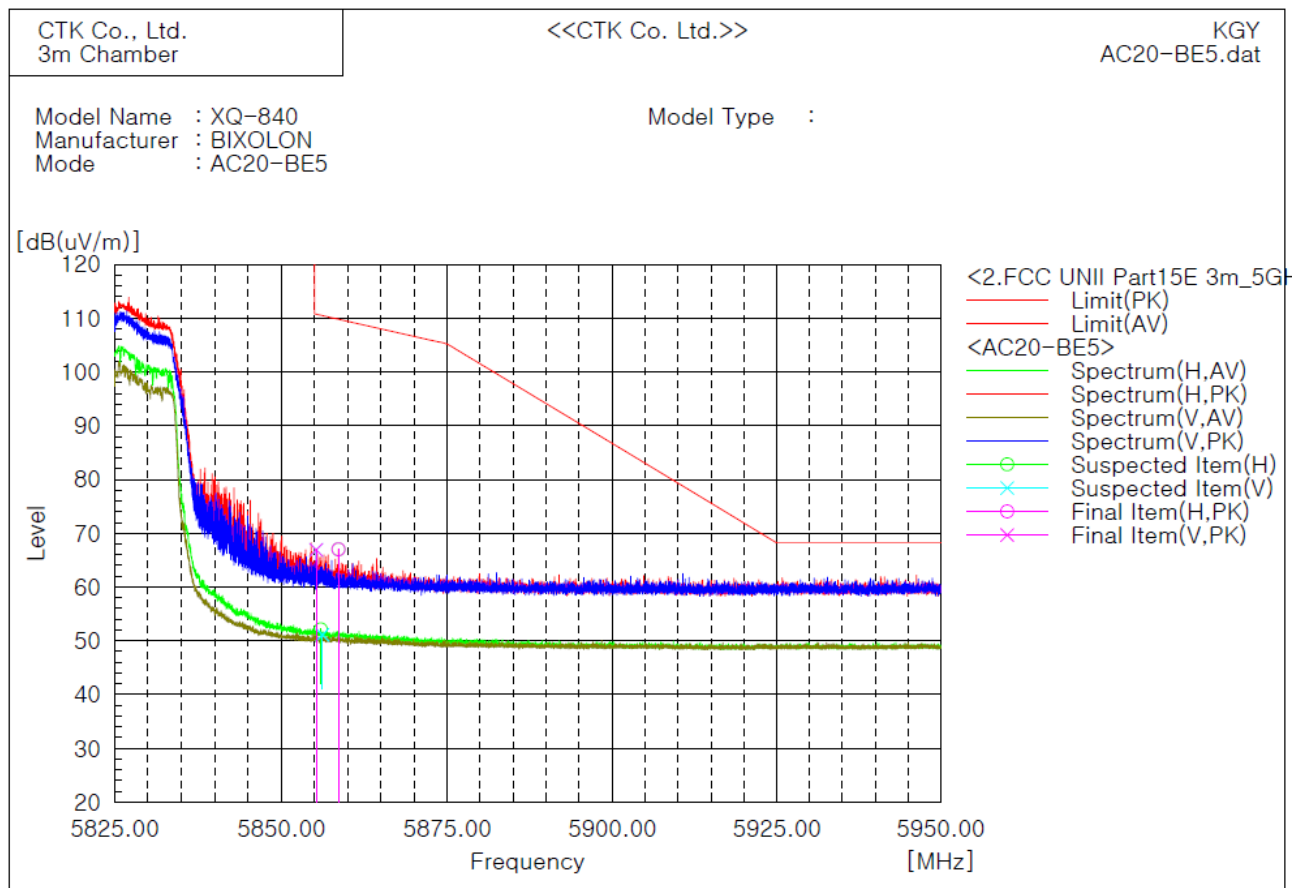
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5719.425	H	57.9	13.4	71.3	110.6	39.3	99.8	0.0	
2	5719.925	V	55.9	13.4	69.3	110.8	41.5	344.0	25.4	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.555 GHz to 5.650 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11ac(VHT20), UNII 3 band, high channel



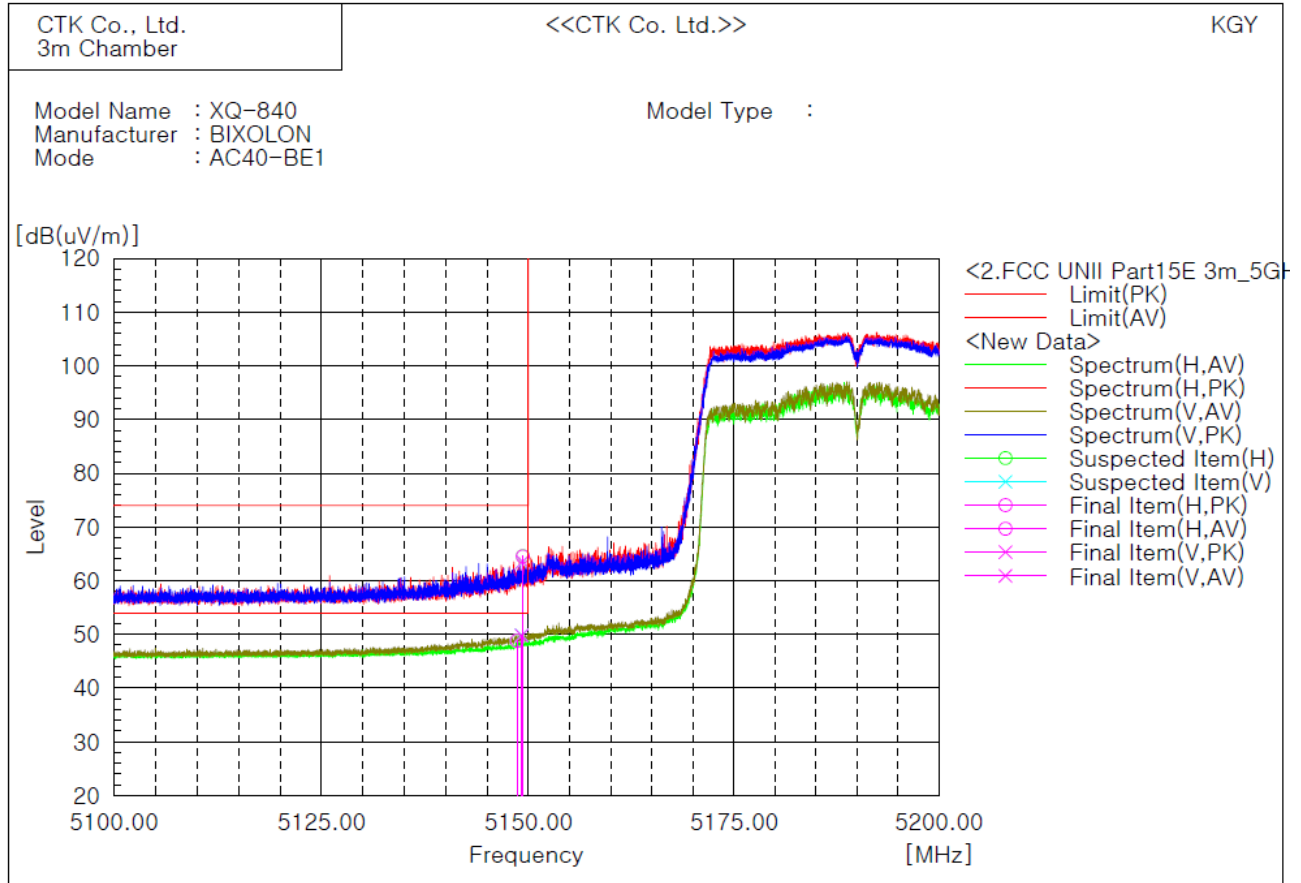
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5858.641	H	53.1	13.9	67.0	109.8	42.8	99.8	349.6	
2	5855.281	V	53.0	13.9	66.9	110.7	43.8	344.1	359.7	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.925 GHz to 5.950 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11ac(VHT40), UNII 1 band, low channel



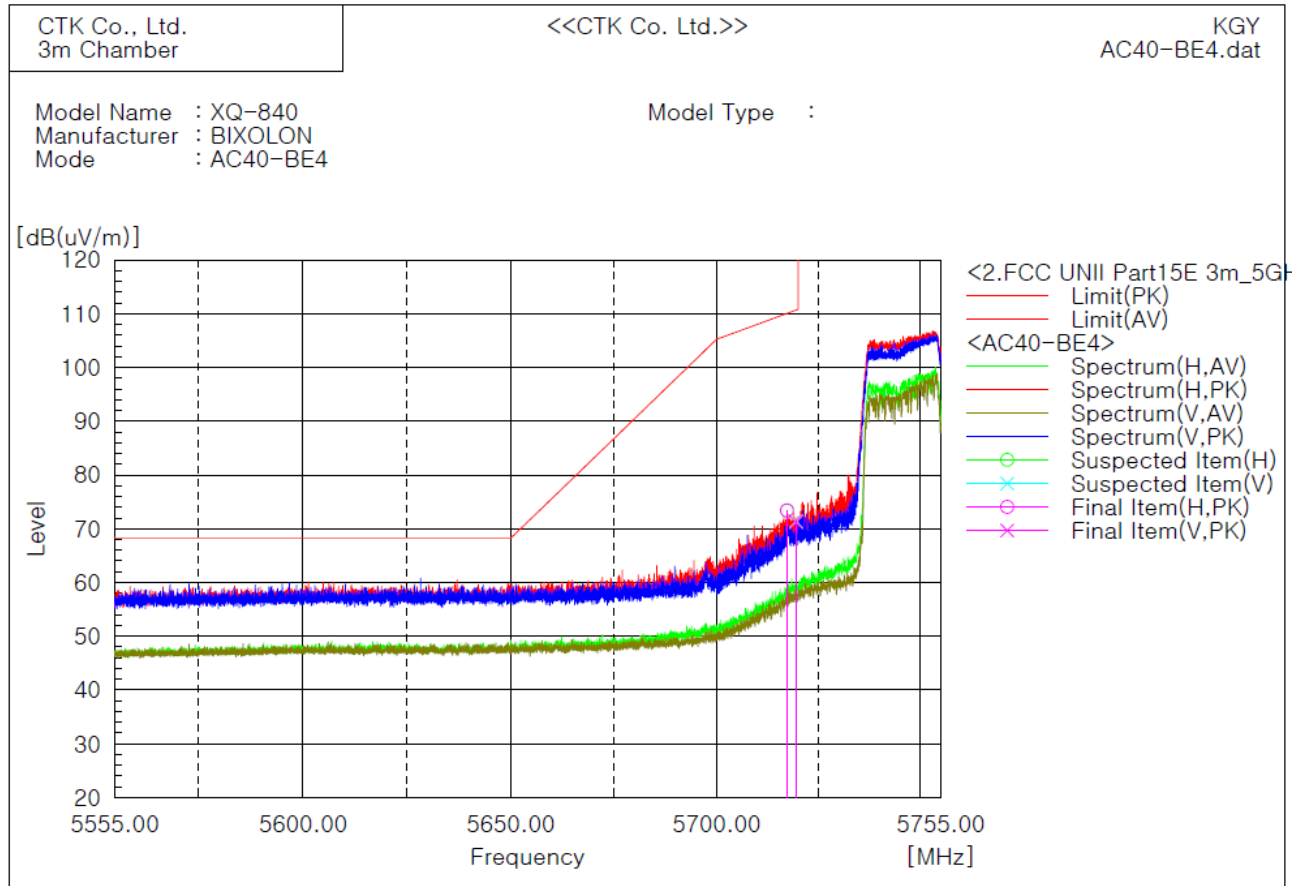
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading AV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	5149.338	H	53.0		11.5	64.5		74.0	54.0	9.5		234.9	62.6	
2	5148.613	H		37.3	11.5		48.8	74.0	54.0		5.2	234.9	0.0	
3	5149.288	V	52.0		11.5	63.5		74.0	54.0	10.5		464.3	318.8	
4	5149.188	V		38.3	11.5		49.8	74.0	54.0		4.2	464.3	359.9	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT40), UNII 3 band, low channel



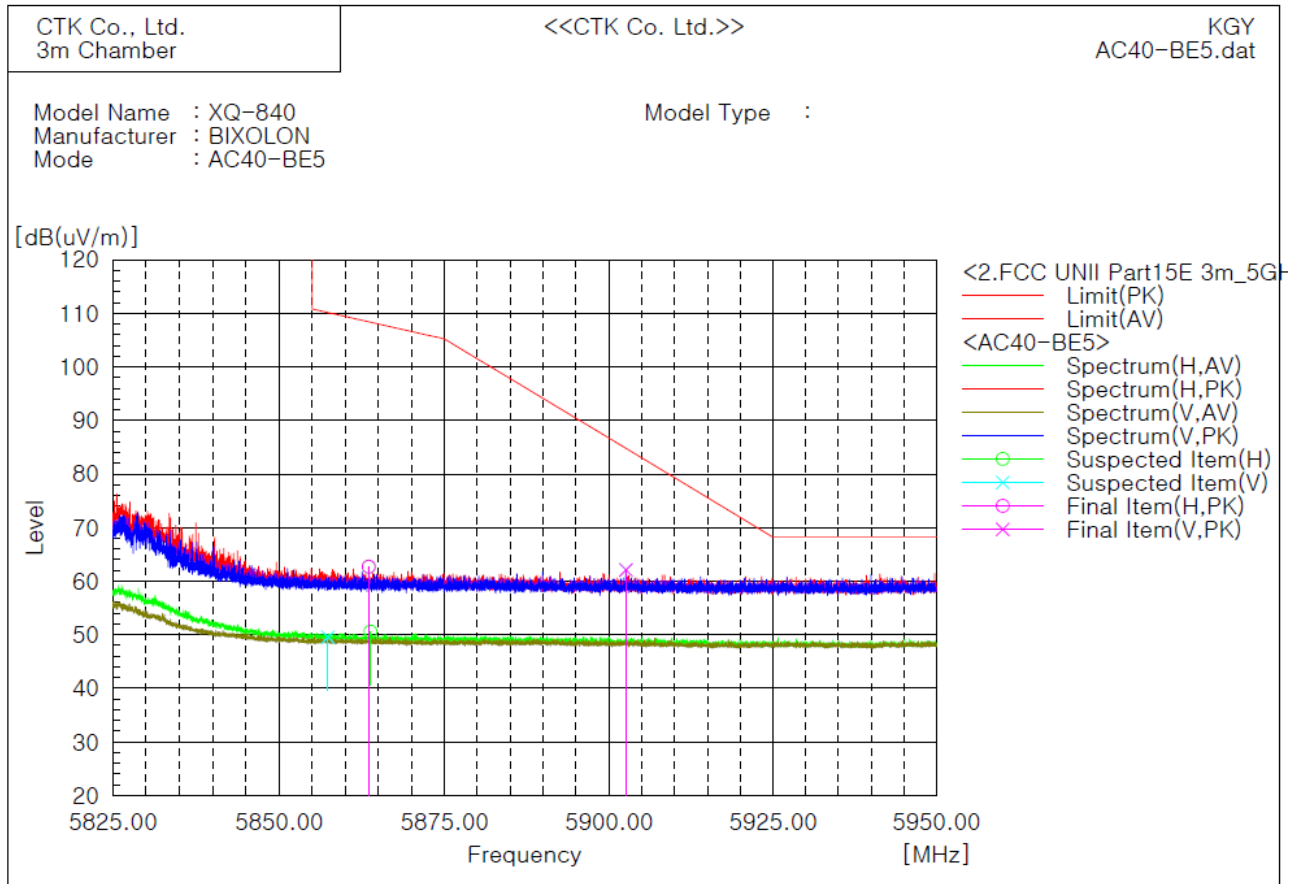
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5717.275	H	60.0	13.4	73.4	110.0	36.6	354.3	64.4	
2	5719.500	V	57.9	13.4	71.3	110.7	39.4	344.4	0.0	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.555 GHz to 5.650 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11ac(VHT40), UNII 3 band, high channel



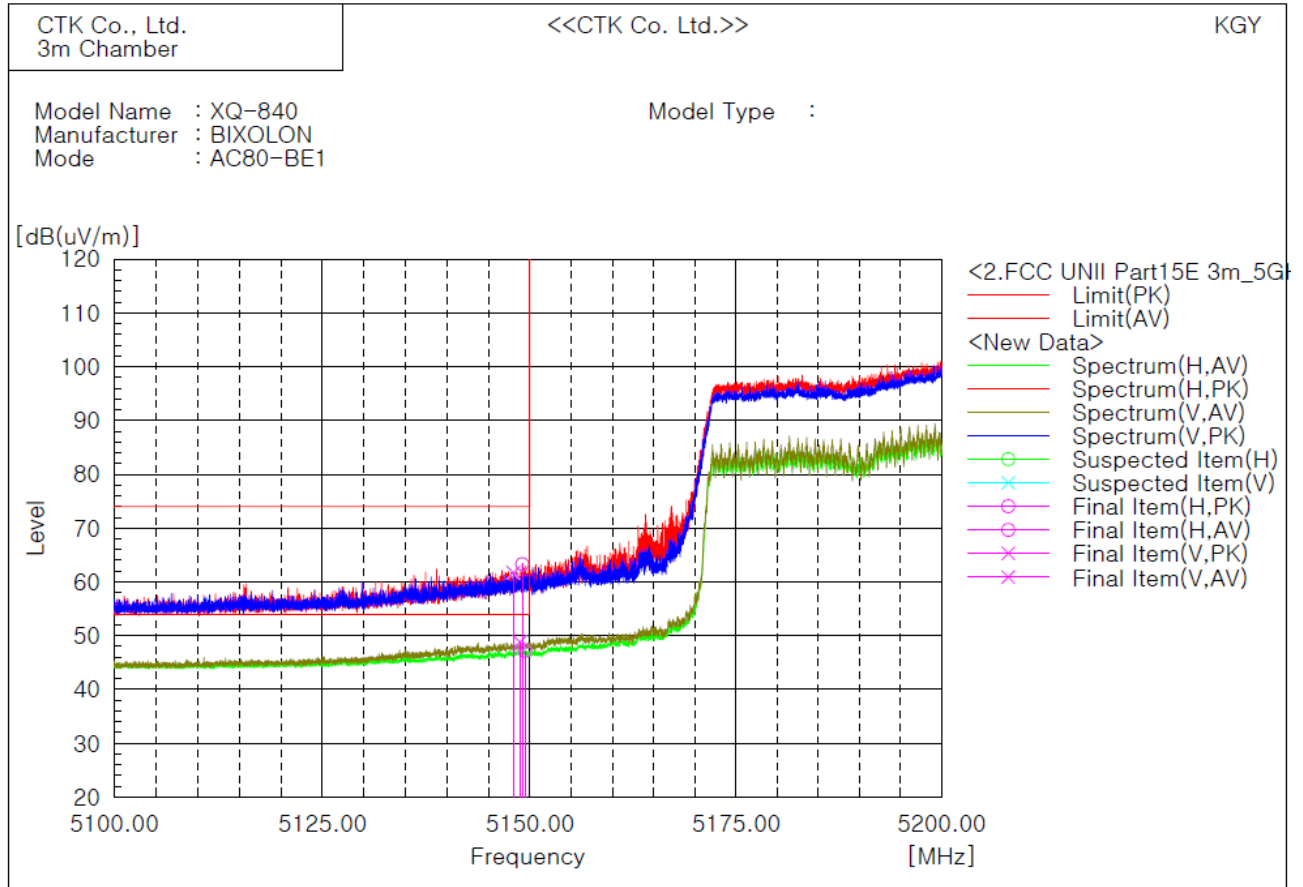
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5863.578	H	48.8	13.9	62.7	108.4	45.7	235.8	52.0	
2	5902.578	V	48.2	13.9	62.1	84.8	22.7	344.0	359.9	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.925 GHz to 5.950 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11ac(VHT80), UNII 1 band, low channel



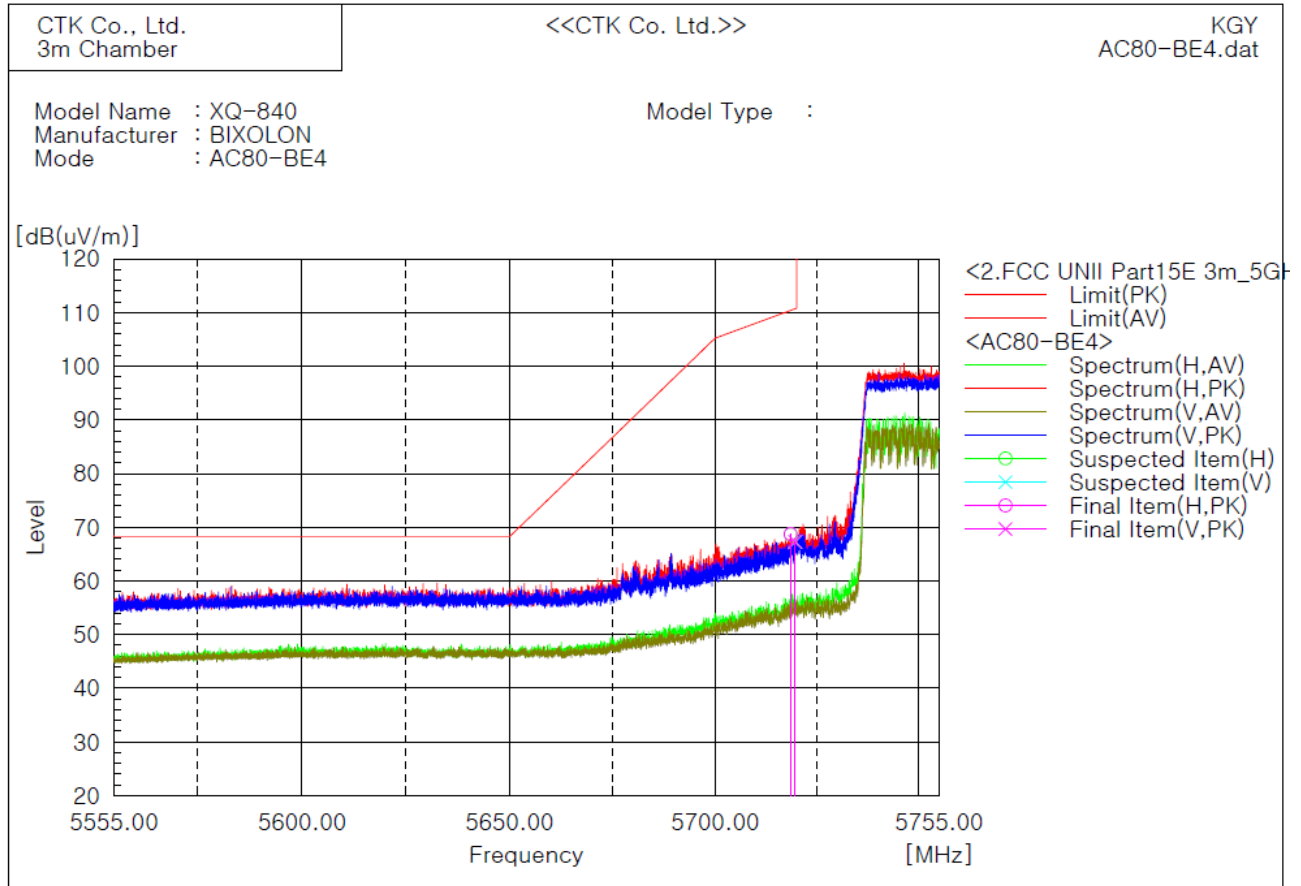
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading AV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [deg]	Remark
1	5149.088	H	51.8		11.5	63.3		74.0	54.0	10.7		234.6	52.2	
2	5149.400	H		35.7	11.5		47.2	74.0	54.0		6.8	234.6	90.5	
3	5148.000	V	50.2		11.5	61.7		74.0	54.0	12.3		464.3	350.3	
4	5148.800	V		37.3	11.5		48.8	74.0	54.0		5.2	346.4	0.0	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain

Test mode : 802.11ac(VHT80), UNII 3 band, low channel



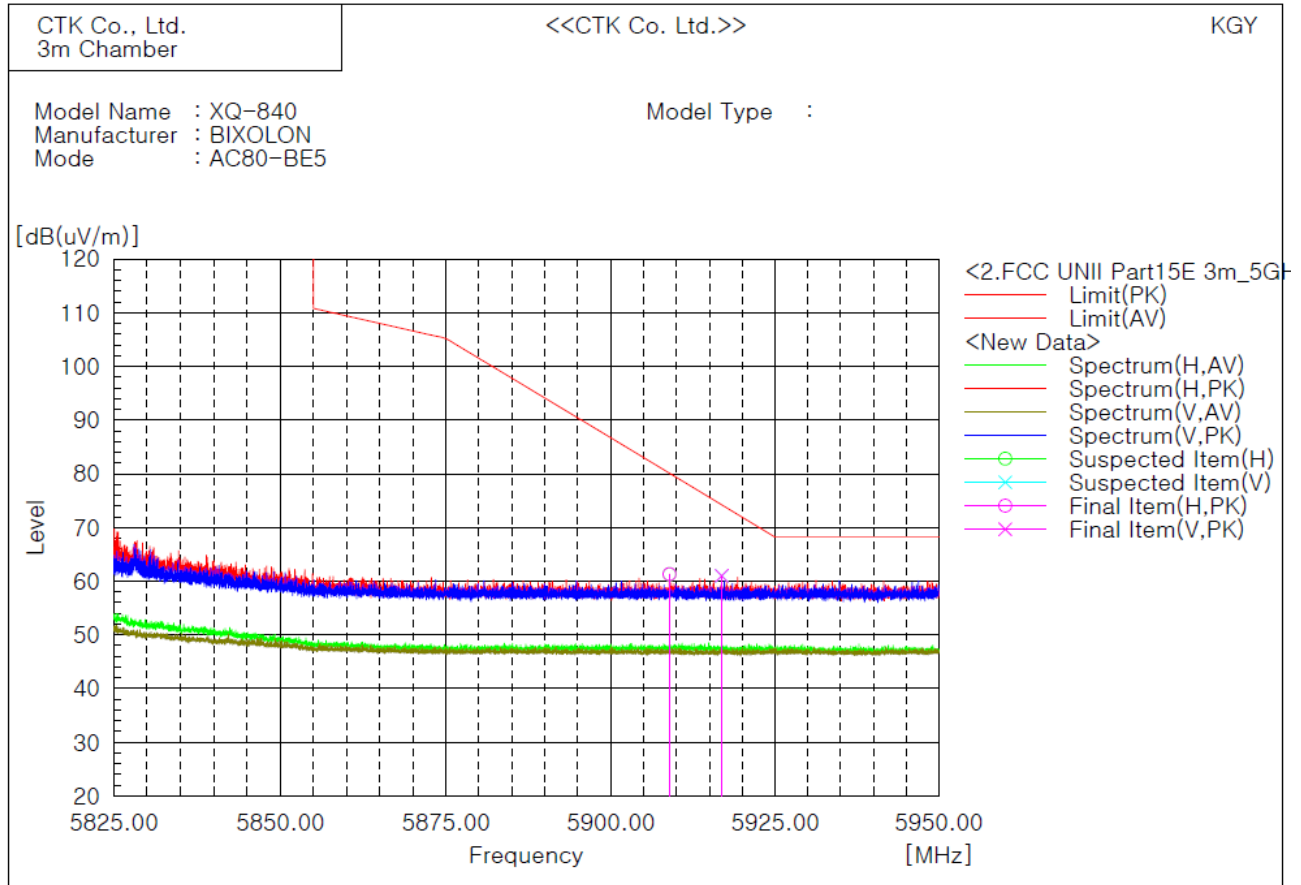
Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5718.525	H	55.3	13.4	68.7	110.4	41.7	355.1	63.0	
2	5719.600	V	53.9	13.4	67.3	110.7	43.4	464.3	52.1	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.555 GHz to 5.650 GHz is lower than the mark point on the graph, but there is no peak found.

Test mode : 802.11ac(VHT80), UNII 3 band, high channel



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	5908.922	H	47.4	13.9	61.3	80.1	18.8	235.7	62.6	
2	5916.875	V	47.1	13.9	61.0	74.2	13.2	346.4	0.0	

Remark :

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The margin from 5.925 GHz to 5.950 GHz is lower than the mark point on the graph, but there is no peak found.

4.7 AC Conducted Emissions

A radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz-30 MHz, shall not exceed the limits.

Instrument Settings

IF Band Width: 9 kHz

Test Procedures

The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m.

Amplitude measurements were performed with a quasi-peak detector and an average detector.

Limit

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average**
0.15 ~ 0.5	66 to 56*	56 to 46*
0.5 ~ 5	56	46
5 ~ 30	60	50

* The level decreases linearly with the logarithm of the frequency.

** A linear average detector is required.

Test Results

The requirements are:

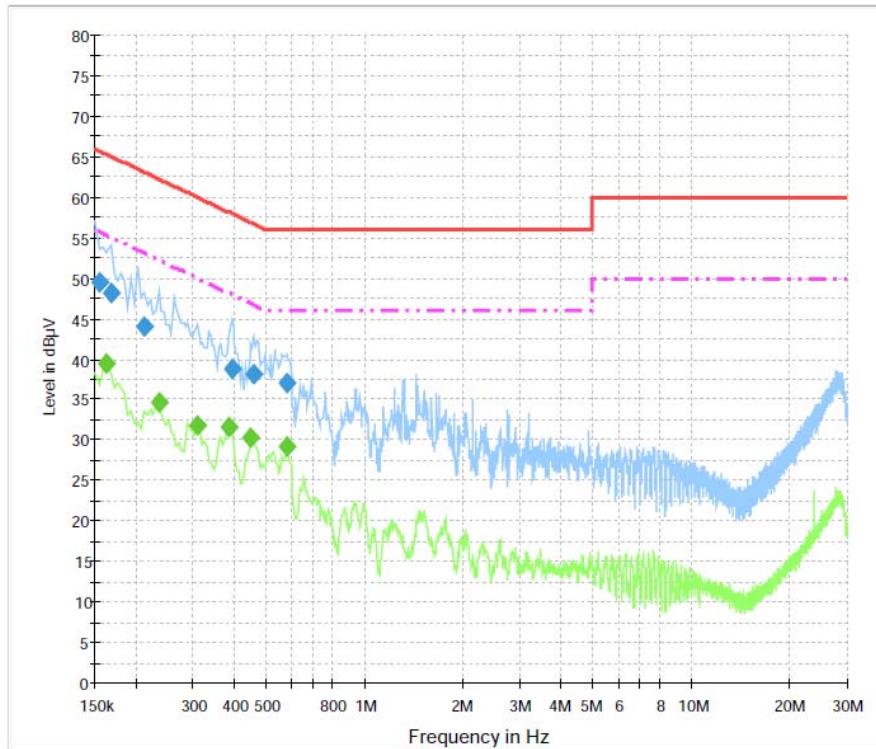
☒ Complies

Test mode : 802.11a, UNII 1 band, low channel(Worst case)

Frequency [MHz]	Measured Data [dBuV]	Margin [dB]	Remark
0.150	50.4	15.6	Quasi-peak

Test Data

[LINE]



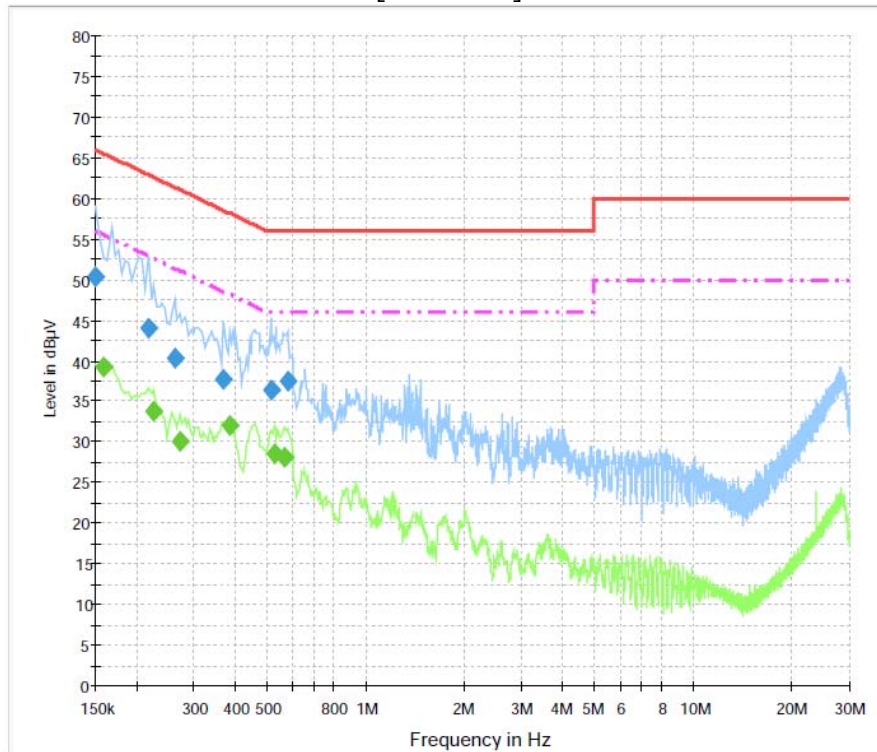
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.154500	49.5	1000.0	9.000	On	L1	10.1	16.2	65.8
0.168000	48.1	1000.0	9.000	On	L1	10.3	16.9	65.1
0.213000	43.9	1000.0	9.000	On	L1	10.1	19.2	63.1
0.393000	38.8	1000.0	9.000	On	L1	10.1	19.2	58.0
0.460500	38.1	1000.0	9.000	On	L1	10.1	18.6	56.7
0.582000	37.0	1000.0	9.000	On	L1	10.2	19.0	56.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.163500	39.5	1000.0	9.000	On	L1	10.2	15.8	55.3
0.235500	34.6	1000.0	9.000	On	L1	10.0	17.7	52.3
0.307500	31.9	1000.0	9.000	On	L1	10.1	18.2	50.0
0.384000	31.7	1000.0	9.000	On	L1	10.1	16.5	48.2
0.451500	30.2	1000.0	9.000	On	L1	10.1	16.6	46.8
0.582000	29.1	1000.0	9.000	On	L1	10.2	16.9	46.0

[NEUTRAL]



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	50.4	1000.0	9.000	On	N	10.3	15.6	66.0
0.217500	44.0	1000.0	9.000	On	N	10.4	18.9	62.9
0.262500	40.3	1000.0	9.000	On	N	10.3	21.1	61.4
0.370500	37.8	1000.0	9.000	On	N	10.5	20.7	58.5
0.514500	36.4	1000.0	9.000	On	N	10.6	19.6	56.0
0.577500	37.5	1000.0	9.000	On	N	10.6	18.5	56.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.159000	39.3	1000.0	9.000	On	N	10.5	16.2	55.5
0.226500	33.8	1000.0	9.000	On	N	10.3	18.8	52.6
0.271500	30.0	1000.0	9.000	On	N	10.3	21.1	51.1
0.384000	32.1	1000.0	9.000	On	N	10.5	16.1	48.2
0.528000	28.6	1000.0	9.000	On	N	10.6	17.4	46.0
0.568500	28.1	1000.0	9.000	On	N	10.6	17.9	46.0

APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	MXA Signal Analyzer	Agilent	N9020A	MY50200512	2019-04-23	2020-04-23
2	Signal Generator	Rohde & Schwarz	SMBV100A	258008	2019-01-28	2020-01-28
3	EMI Test Receiver	Rohde & Schwarz	ESCI7	100814	2019-10-22	2020-10-22
4	Bilog Antenna	SCHAFFNER	CBL6111C	2551	2019-04-17	2021-04-17
5	Active Loop Antenna	SCHWARZBECK	FMZB 1513	1513-125	2018-05-02	2020-05-02
6	6dB Attenuator	Rohde & Schwarz	DNF	272.4110.50-2	2019-10-25	2020-10-25
7	AMPLIFIER	SONOMA	310	291721	2019-01-28	2020-01-28
8	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2019-01-29	2020-01-29
9	Preamplifier	Agilent	8449B	3008A02011	2018-11-30	2019-12-03
10	Double Ridged Guide Antenna	ETS-Lindgren	3117	00154525	2019-02-22	2021-02-22
11	Double Ridged Guide Antenna	ETS-Lindgren	3116	00062916	2019-04-22	2021-04-22
12	Band Reject Filter	Micro Tronics	BRM50716	G184	2019-01-28	2020-01-28
13	Singnal Canditioning Unit	Rohde & Schwarz	SCU-40	10023	2018-10-16	2020-10-16

	Cable	Manufacturer	Model No.	Serial No.	Check Date
1	RF Cable (Radiated)	HUBER+SUHNER	SUCOFLEX 104	MY27558/4	2018-12-19
2	RF Cable (Radiated)	HUBER+SUHNER	SUCOFLEX 104	N/A (below 1GHz)	2018-12-19
3	RF Cable (Radiated)	HUBER+SUHNER	SUCOFLEX 104	MY27573/4	2018-12-19
4	RF Cable (Radiated)	HUBER+SUHNER	SUCOFLEX 106	N/A (above 1GHz)	2018-12-19
5	RF Cable (Radiated)	HUBER+SUHNER	SUCOFLEX 102	MY2374/2	2018-12-19
6	RF Cable (Radiated)	HUBER+SUHNER	SUCOFLEX 102	MY4728/2	2018-12-19
7	RF Cable (Conducted Emissions)	Canare Corporation	L-5D2W	N/A	2018-12-19
8	RF Cable (Conducted)	Junkosha Inc.	MWX221	1510S087	2019-10-22

Remark

- Equipment No. 3 and 6, 13 were used for radiation measurements after the calibration date.