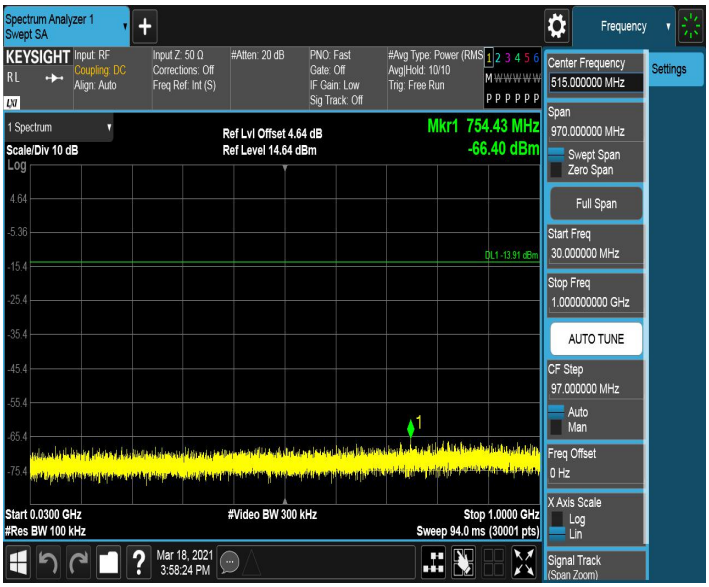
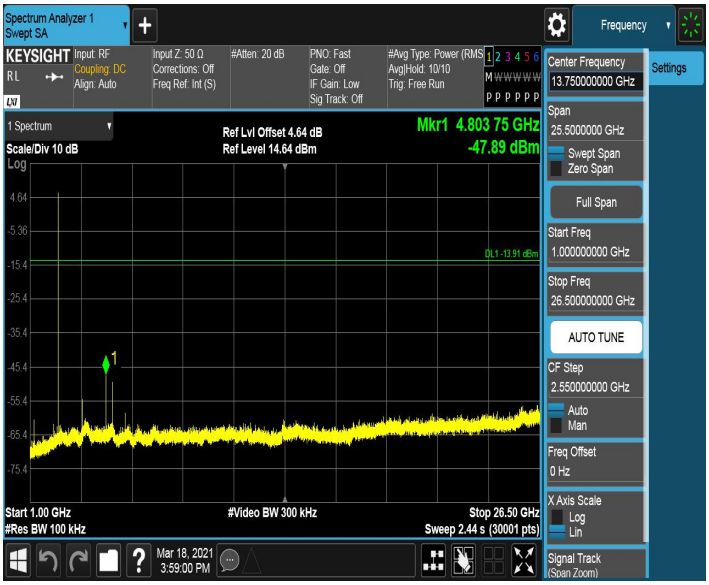
8.8.5. Test Result

Test Mode	Antenna	Channel	Freq Range [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	6.09	6.09	---	PASS
			30~1000	30~1000	-66.402	<=-13.914	PASS
			1000~26500	1000~26500	-47.89	<=-13.914	PASS
		2441	Reference	6.81	6.81	---	PASS
			30~1000	30~1000	-66.417	<=-13.191	PASS
			1000~26500	1000~26500	-43.382	<=-13.191	PASS
		2480	Reference	6.74	6.74	---	PASS
			30~1000	30~1000	-66.654	<=-13.262	PASS
			1000~26500	1000~26500	-46.793	<=-13.262	PASS
2DH5	Ant1	2402	Reference	6.59	6.59	---	PASS
			30~1000	30~1000	-66.087	<=-13.414	PASS
			1000~26500	1000~26500	-47.976	<=-13.414	PASS
		2441	Reference	6.89	6.89	---	PASS
			30~1000	30~1000	-66.689	<=-13.108	PASS
			1000~26500	1000~26500	-55.52	<=-13.108	PASS
		2480	Reference	6.84	6.84	---	PASS
			30~1000	30~1000	-66.381	<=-13.16	PASS
			1000~26500	1000~26500	-50.6	<=-13.16	PASS
3DH5	Ant1	2402	Reference	6.73	6.73	---	PASS
			30~1000	30~1000	-66.588	<=-13.272	PASS
			1000~26500	1000~26500	-56.77	<=-13.272	PASS
		2441	Reference	6.21	6.21	---	PASS
			30~1000	30~1000	-66.669	<=-13.792	PASS
			1000~26500	1000~26500	-49.745	<=-13.792	PASS
		2480	Reference	6.82	6.82	---	PASS
			30~1000	30~1000	-65.864	<=-13.184	PASS
			1000~26500	1000~26500	-55.197	<=-13.184	PASS

DH5_Ant1_2402_0~Reference

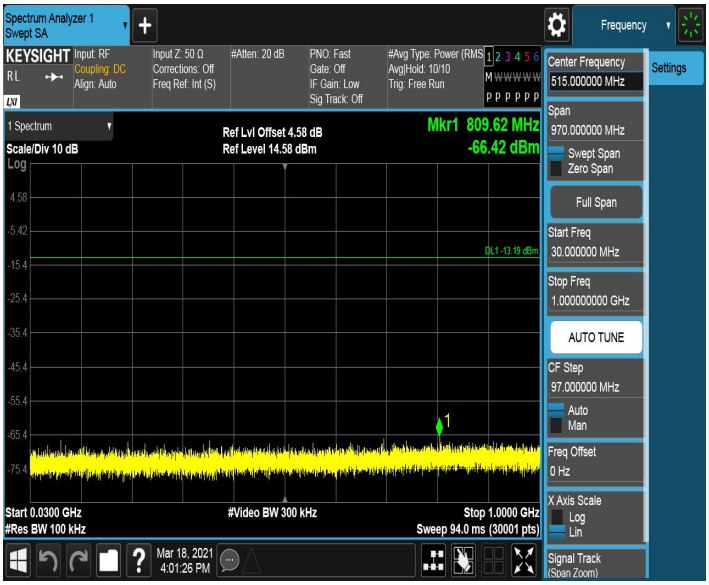
DH5_Ant1_2402_30~1000



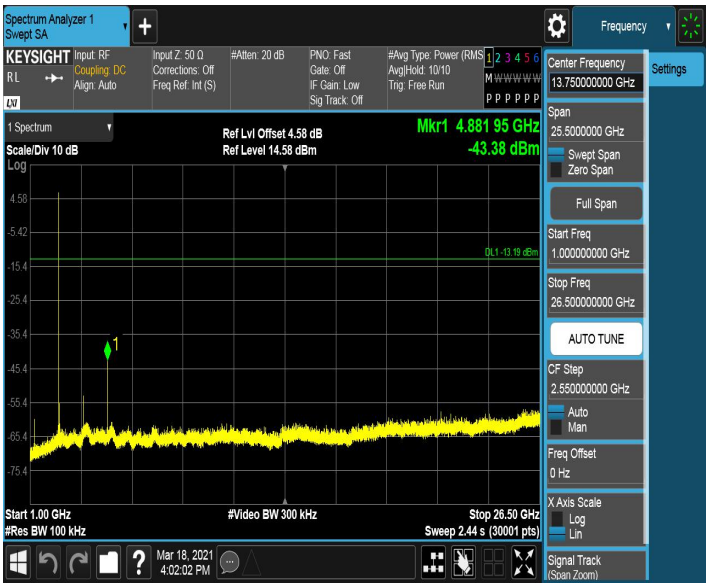
DH5_Ant1_2402_1000~26500


DH5_Ant1_2441_0~Reference


DH5_Ant1_2441_30~1000

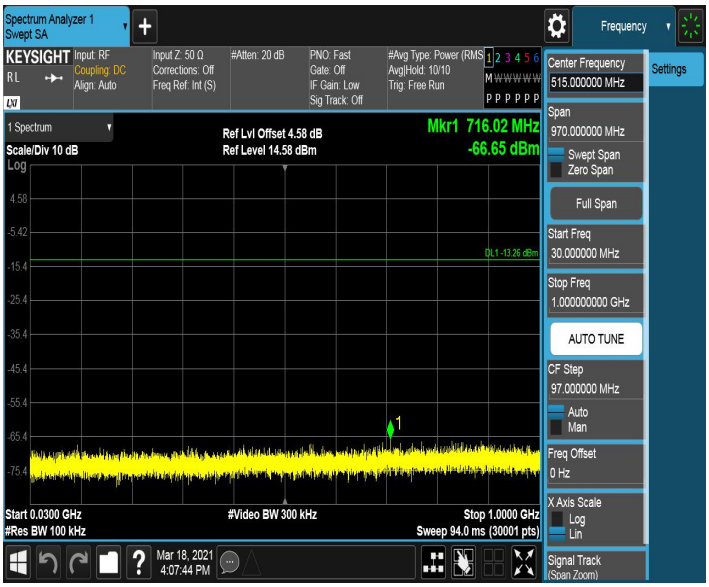


DH5_Ant1_2441_1000~26500

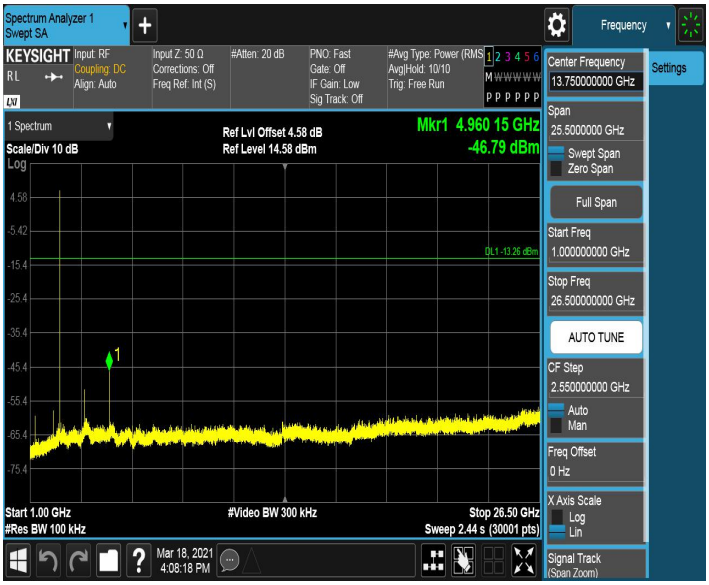


DH5_Ant1_2480_0~Reference

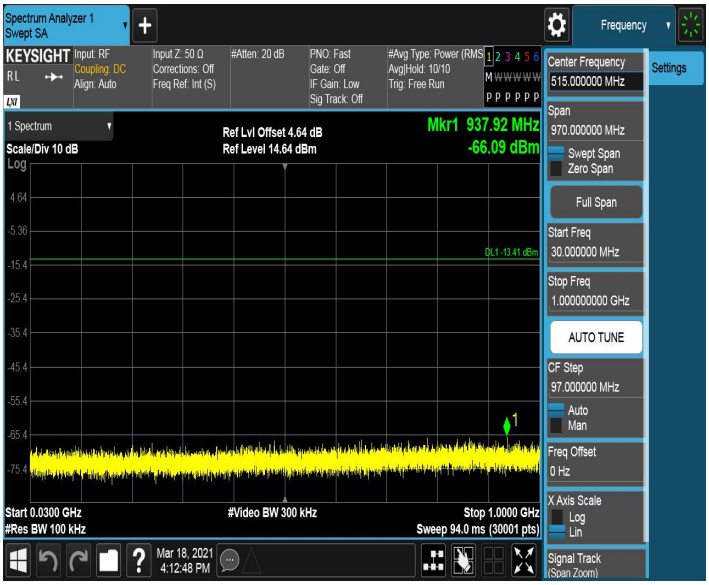
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500



2DH5_Ant1_2402_0~Reference

2DH5_Ant1_2402_30~1000

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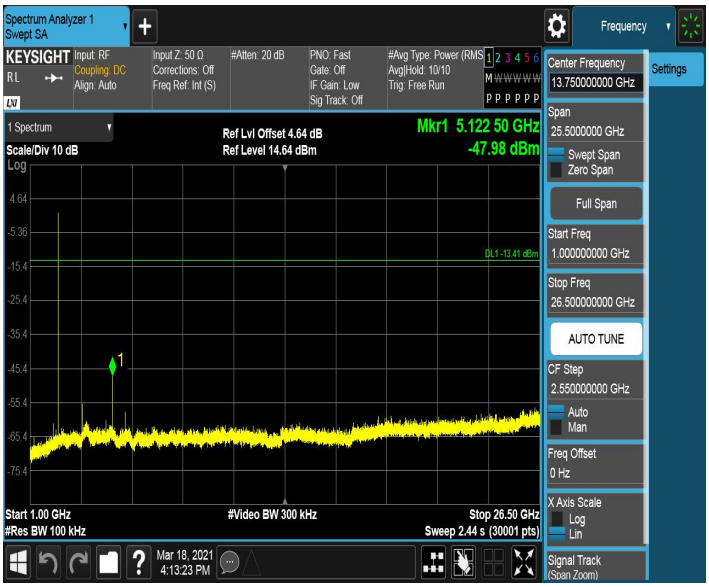
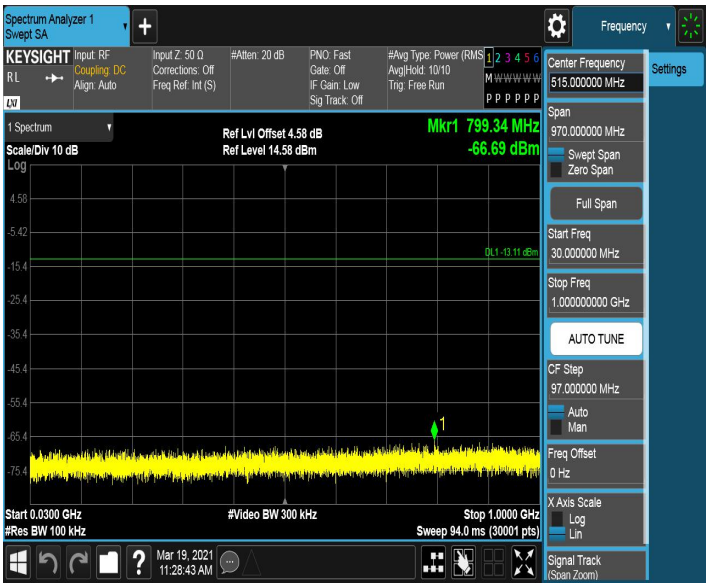
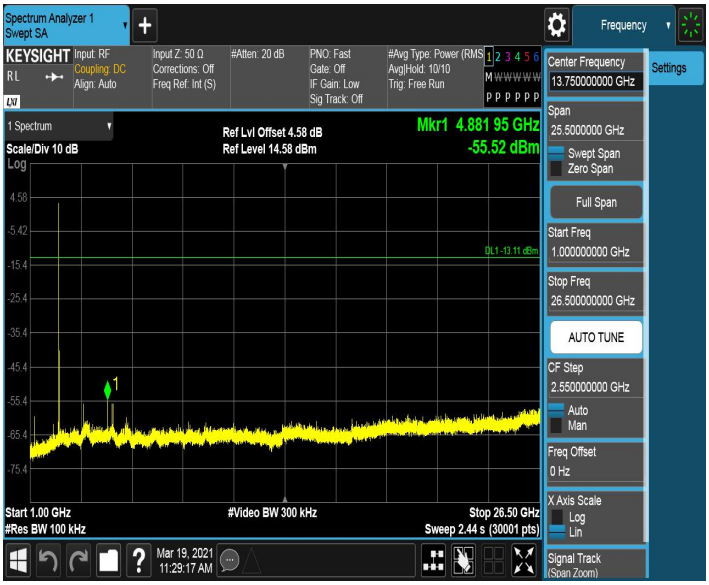


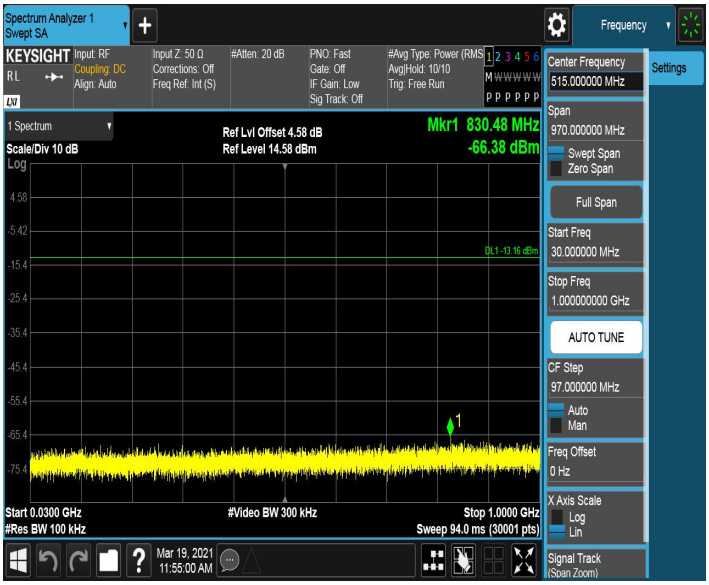
2DH5_Ant1_2441_0~Reference

2DH5_Ant1_2441_30~1000


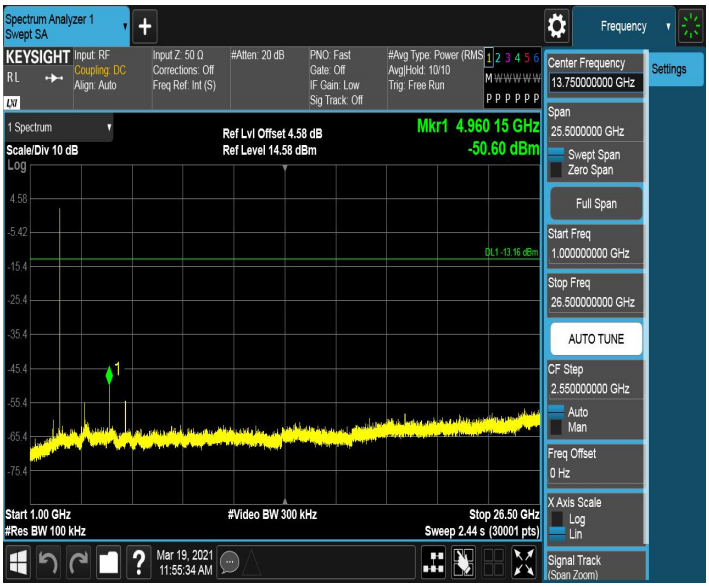
2DH5_Ant1_2441_1000~26500


2DH5_Ant1_2480_0~Reference

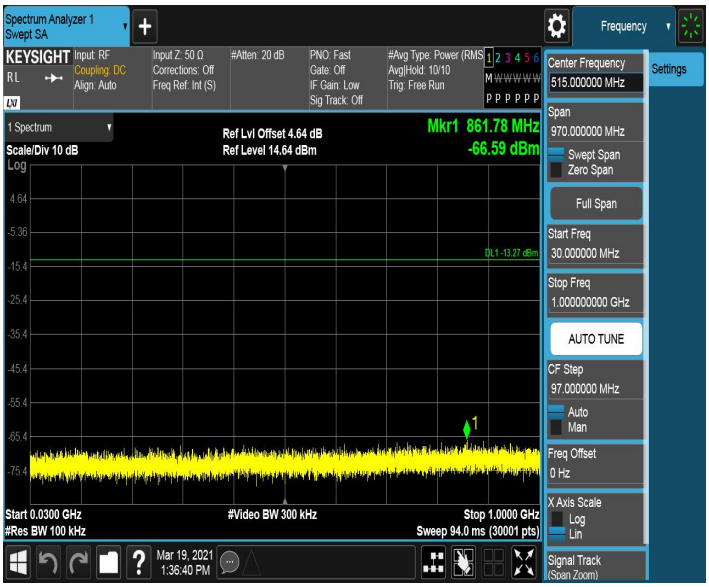

2DH5_Ant1_2480_30~1000

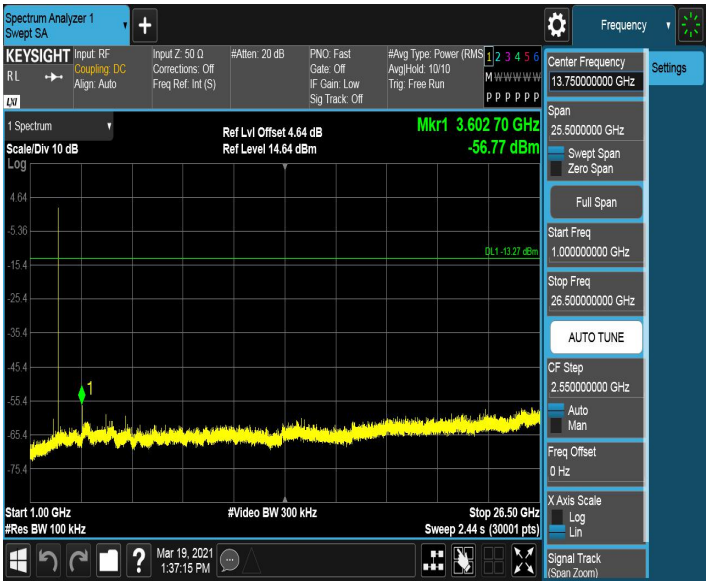


2DH5_Ant1_2480_1000~26500

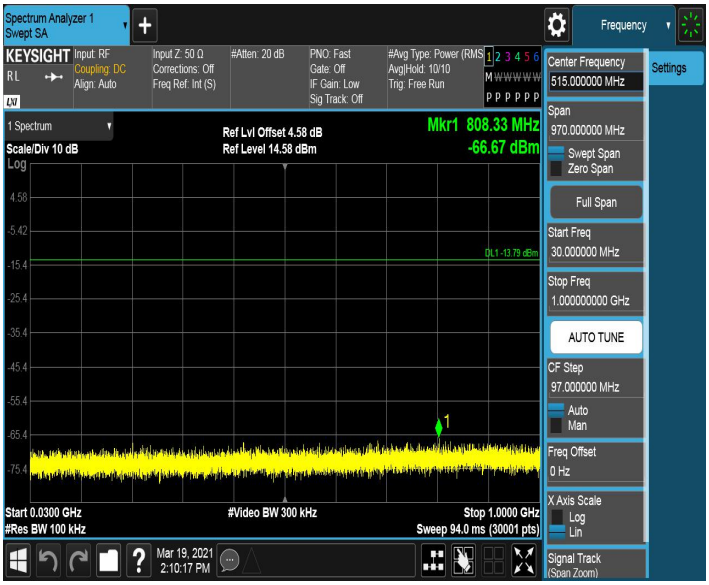
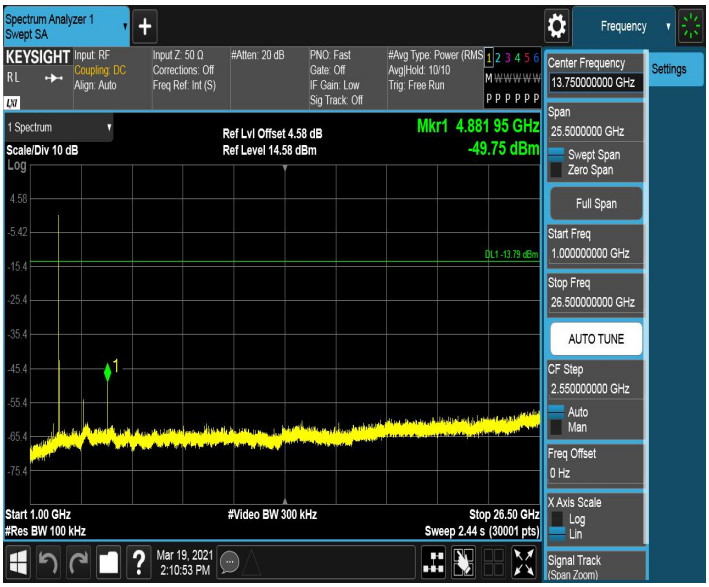


3DH5_Ant1_2402_0~Reference

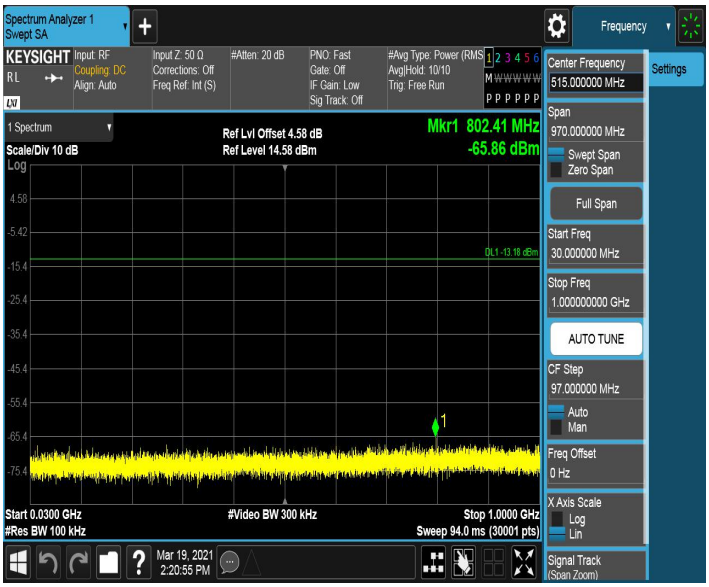
3DH5_Ant1_2402_30~1000


3DH5_Ant1_2402_1000~26500


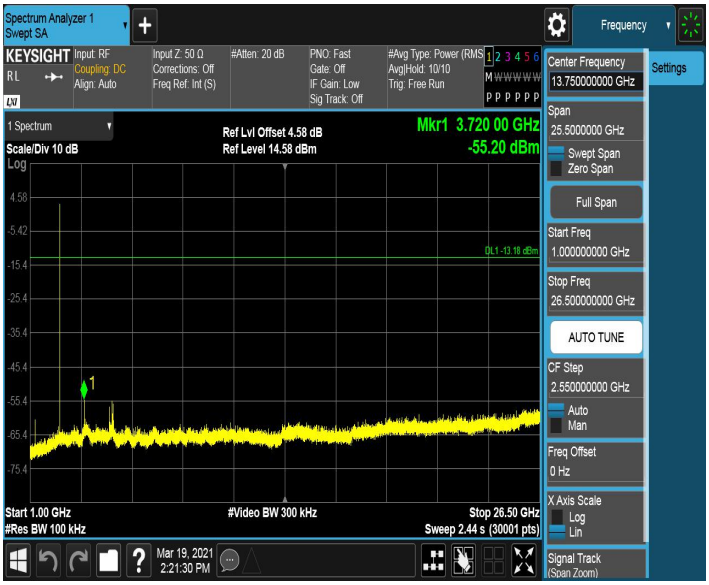
3DH5_Ant1_2441_0~Reference


3DH5_Ant1_2441_30~1000

3DH5_Ant1_2441_1000~26500


3DH5_Ant1_2480_0~Reference

3DH5_Ant1_2480_30~1000


3DH5_Ant1_2480_1000~26500



8.9. Radiated Spurious Emission Measurement

8.9.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured 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	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

8.9.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

8.9.3. Test Setting

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

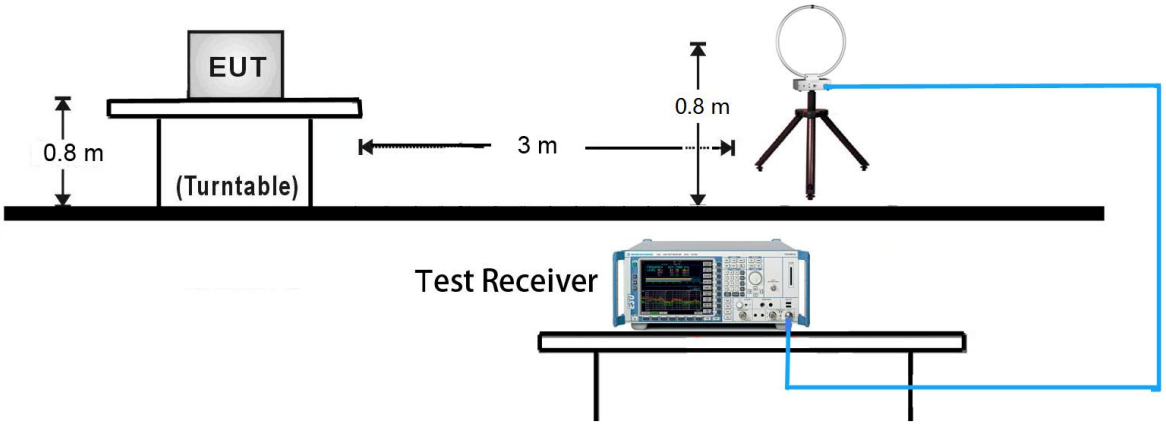
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.
   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto

6. Trace mode = max hold

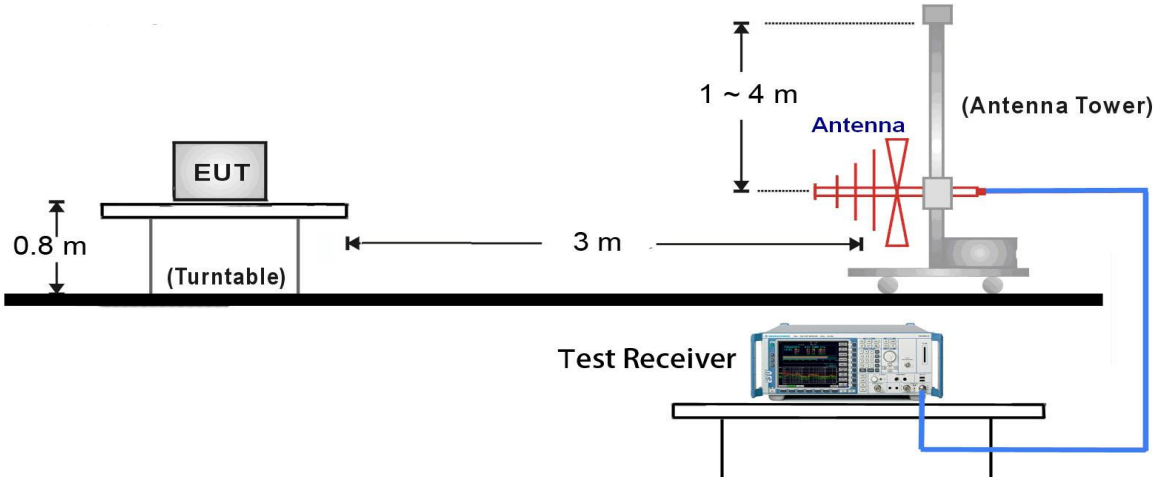
7. Trace was allowed to stabilize

8.9.4. Test Setup

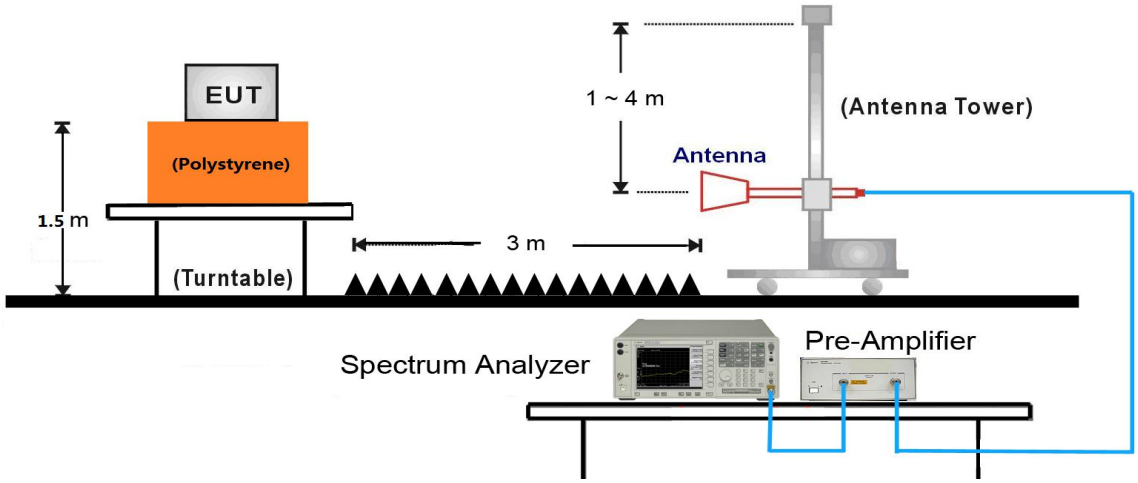
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



1GHz ~ 25GHz Test Setup:



8.9.5. Test Result

The Worst Case of Radiated Emission above 1GHz

Test Mode:	3DH5 - Ant 1	Test Date:	2021-03-26
Test Channel:	00	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4824	45.69	7.33	74.00	28.31	Peak	Horizontal
	5132	44.41	8.47	74.00	29.59	Peak	Horizontal
*	6782	47.91	12.87	77.35	29.44	Peak	Horizontal
*	7235	48.39	13.59	77.35	28.96	Peak	Horizontal
	4824	44.70	7.33	74.00	29.30	Peak	Vertical
	5132	44.32	8.47	74.00	29.68	Peak	Vertical
*	6782	46.29	12.87	77.35	31.06	Peak	Vertical
*	7236	48.18	13.59	77.35	29.17	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (97.35dBμV/m) or 15.209 which is higher.

Test Mode:	3DH5 - Ant 1	Test Date:	2021-03-26
Test Channel:	39	Test Engineer:	Amos Xia
Remark:	3. Average measurement was not performed if peak level lower than average limit. 4. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4882	45.01	7.33	74.00	28.99	Peak	Horizontal
	4905.953	45.31	7.69	74.00	28.69	Peak	Horizontal
*	6991.996	49.56	13.16	77.38	27.82	Peak	Horizontal
*	7200	48.55	13.59	77.38	28.83	Peak	Horizontal
	4882	43.43	7.33	74.00	30.57	Peak	Vertical
	5003.5018	44.89	8.15	74.00	29.11	Peak	Vertical
*	6782	47.36	12.87	77.38	30.02	Peak	Vertical
*	7200	48.59	13.59	77.38	28.79	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (97.38dBμV/m) or 15.209 which is higher.

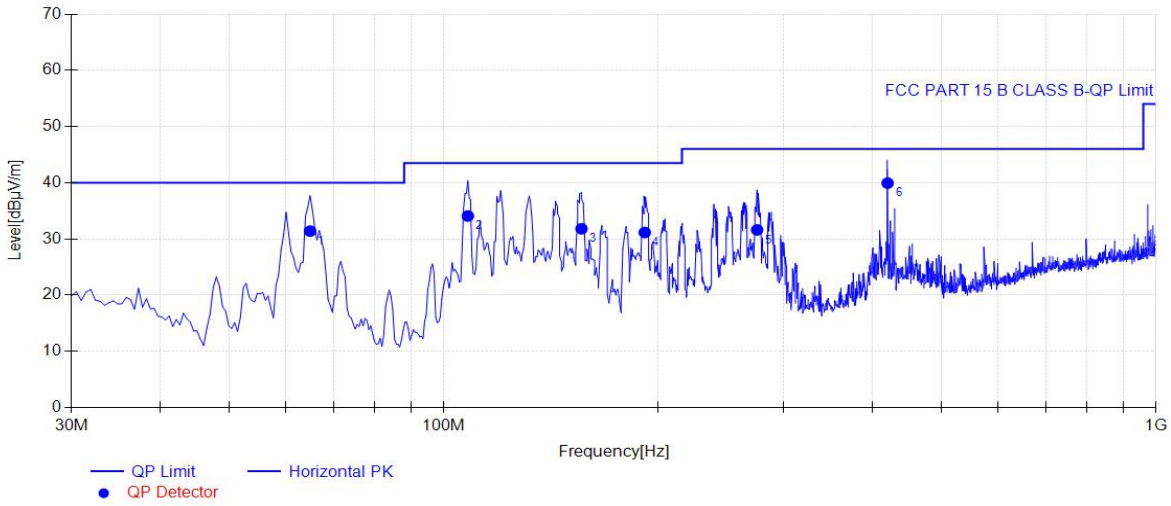
Test Mode:	3DH5 - Ant 1	Test Date:	2021-03-26
Test Channel:	78	Test Engineer:	Amos Xia
Remark:	5. Average measurement was not performed if peak level lower than average limit. 6. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4944	45.95	7.33	74.00	28.05	Peak	Horizontal
	5003.5018	44.77	8.15	74.00	29.23	Peak	Horizontal
*	6984.4922	48.5	13.15	78.12	29.62	Peak	Horizontal
*	7200	48.26	13.59	78.12	29.86	Peak	Horizontal
	4944	43.81	7.33	74.00	30.19	Peak	Vertical
	4988.4942	45.17	8.06	74.00	28.83	Peak	Vertical
*	7067.0335	49.07	13.17	78.12	29.05	Peak	Vertical
*	7200	48.95	13.59	78.12	29.17	Peak	Vertical
Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (98.12dBμV/m) or 15.209 which is higher.							

The Worst Case of Radiated Emission below 1GHz:

EUT:	DIZO GoPods D	Polarity:	Horizontal
Model:	DA2002	SN:	N/A
Mode:	Transmit by DH5 at Channel 2480MHz	Voltage:	DC 3.3V
Environment:	Temp: 25℃; Humi:60%	Engineer:	Amos Xia

Test Graph

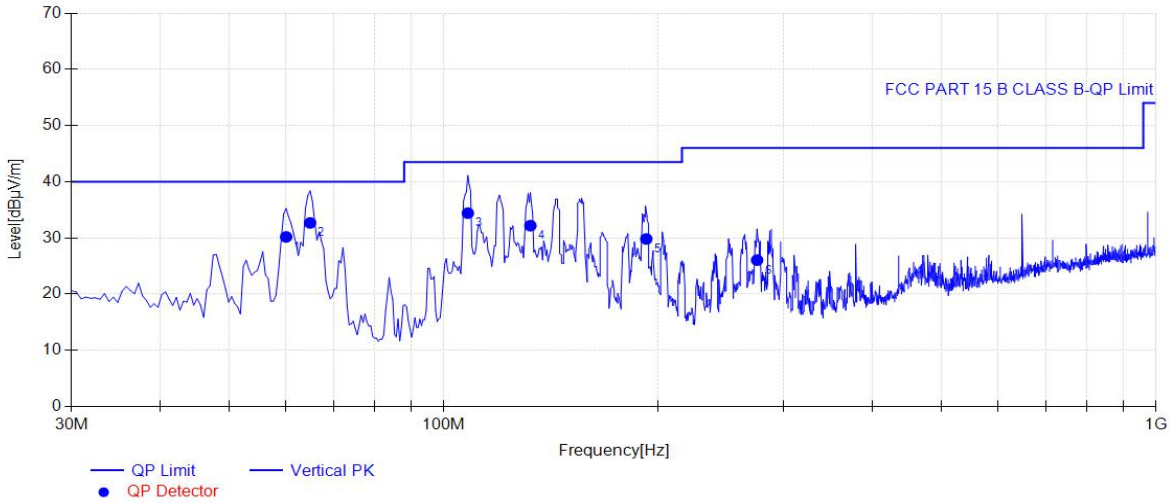


Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	64.9200	7.45	31.39	40.00	8.61	200	0	Horizontal
2	108.085	11.08	34.08	43.50	9.42	200	64	Horizontal
3	156.100	10.17	31.80	43.50	11.70	200	121	Horizontal
4	191.505	9.18	31.15	43.50	12.35	100	84	Horizontal
5	275.410	12.41	31.61	46.00	14.39	100	162	Horizontal
6	419.940	16.76	39.93	46.00	6.07	100	3	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

EUT:	DIZO GoPods D	Polarity:	Vertical
Model:	DA2002	SN:	N/A
Mode:	Transmit by DH5 at Channel 2480MHz	Voltage:	DC 3.3V
Environment:	Temp: 25℃; Humi:60%	Engineer:	Amos Xia

Test Graph



Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	60.0700	5.93	30.18	40.00	9.82	100	160	Vertical
2	64.9200	7.45	32.67	40.00	7.33	100	174	Vertical
3	108.085	11.08	34.41	43.50	9.09	100	226	Vertical
4	132.335	11.67	32.18	43.50	11.32	100	138	Vertical
5	192.475	9.16	29.81	43.50	13.69	100	101	Vertical
6	275.410	12.41	26.05	46.00	19.95	200	348	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

8.10. Radiated Restricted Band Edge Measurement

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1] 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured 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	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

8.10.1. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

8.10.2. Test Setting

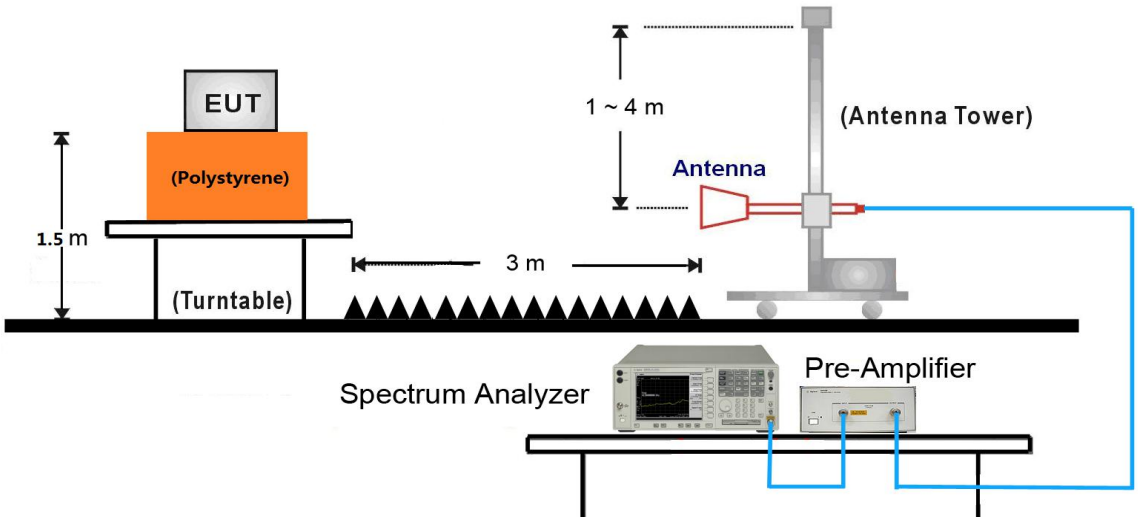
Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.
   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

8.10.3. Test Setup

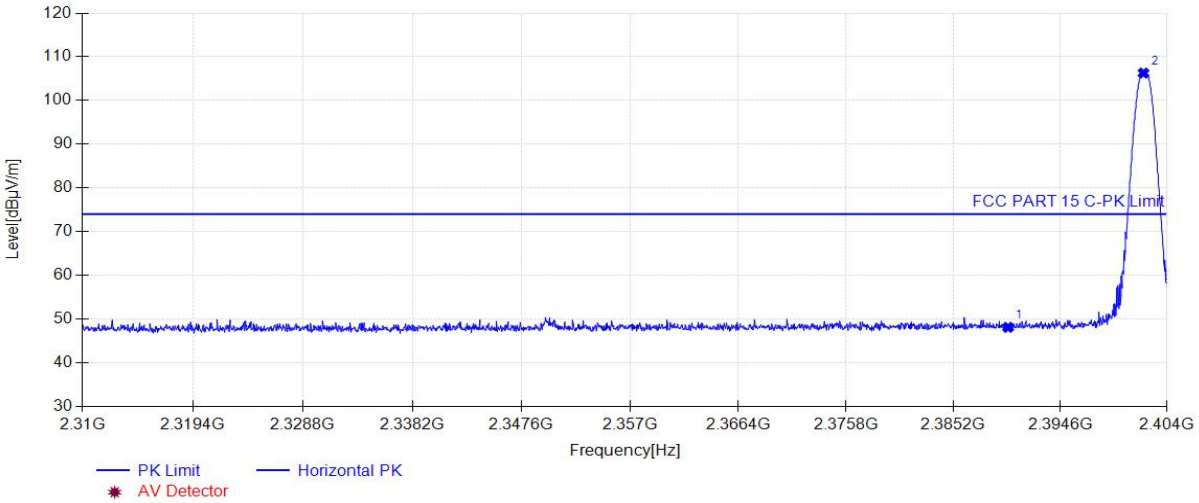


8.10.4. Test Result

Project Information			
EUT:	DIZO GoPods D	Model:	DA2002
SN:	N/A	Voltage:	DC 3.3V
Environment:	Temp: 25℃; Humi:60%	Engineer:	Amos Xia
Remark:	Transmit by DH5 at Channel 2402MHz		

Start of Test:2021-03-26 15:49:03

Test Graph

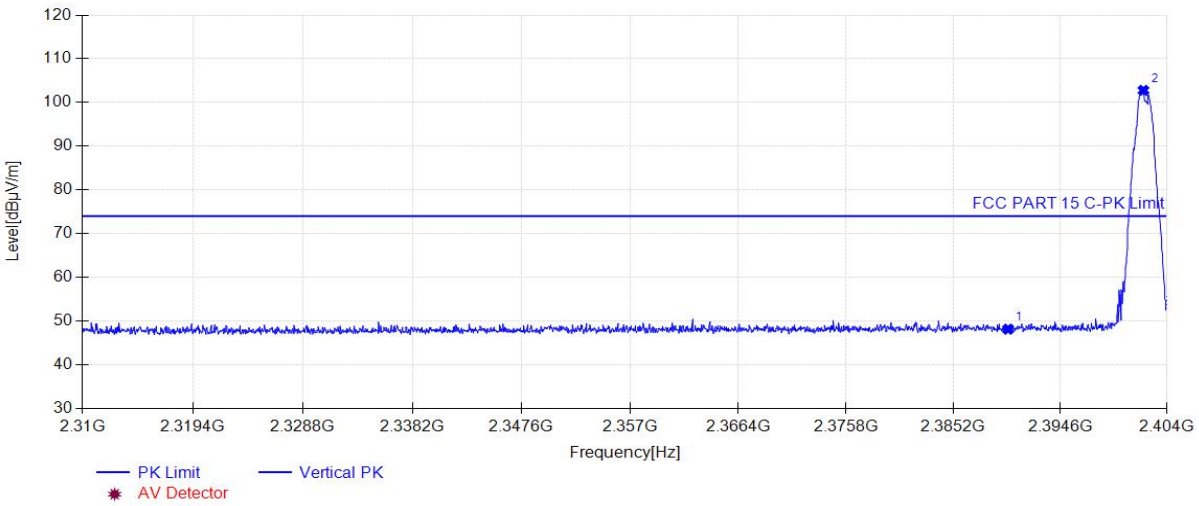


Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2390.00	48.10	35.27	74.00	25.90	160	11	Horizontal
2	2401.93	106.28	35.31	74.00	-32.28	160	122	Horizontal

Project Information			
EUT:	DIZO GoPods D	Model:	DA2002
SN:	N/A	Voltage:	DC 3.3V
Environment:	Temp: 25℃; Humi:60%	Engineer:	Amos Xia
Remark:	Transmit by DH5 at Channel 2402MHz		

Start of Test:2021-03-26 15:49:55

Test Graph

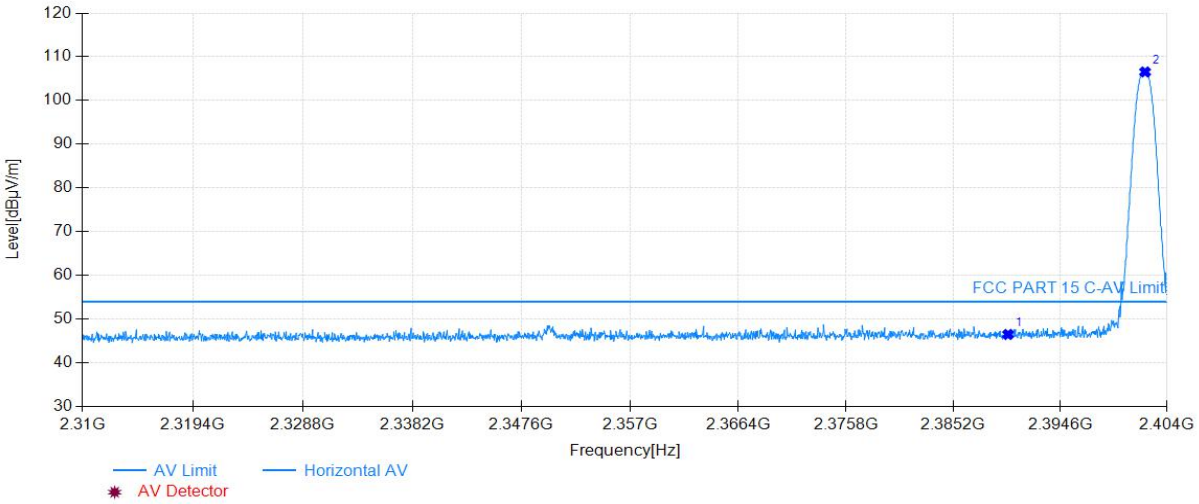


Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2390.00	48.14	35.27	74.00	25.86	160	256	Vertical
2	2401.93	102.79	35.31	74.00	-28.79	160	70	Vertical

Project Information			
EUT:	DIZO GoPods D	Model:	DA2002
SN:	N/A	Voltage:	DC 3.3V
Environment:	Temp: 25℃; Humi:60%	Engineer:	Amos Xia
Remark:	Transmit by DH5 at Channel 2402MHz		

Start of Test:2021-03-26 15:56:53

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2390.00	46.48	35.27	54.00	7.52	160	257	Horizontal
2	2402.07	106.54	35.31	54.00	-52.54	160	116	Horizontal