



**SGS-CSTC Standards Technical Services Ltd.
Shenzhen Branch**

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Report No.: SZEM161100931202
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FCC REPORT

Application No. : SZEM1611009312CR
Applicant: DGL Group, Ltd
Manufacturer: DGL Group, Ltd
Factory: DGL Group, Ltd
Product Name: Remote controlled aircraft
Model No.(EUT): COD-QDR- DF(Remote Control)
Add Model No.: COD-QDR- BTSNG, COD-QDR-BTS
FCC ID: 2AANZ326426
Standards: 47 CFR Part 15, Subpart C (2015)
Date of Receipt: 2016-11-03
Date of Test: 2016-11-08 to 2016-12-14
Date of Issue: 2016-12-19

Test Result:	PASS *
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. * In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2016-12-19		Original

Authorized for issue by:			
Tested By		2016-12-14	
	(Peter Geng) /Project Engineer	Date	
Checked By		2016-12-19	
	(Eric Fu) /Reviewer	Date	



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3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203	ANSI C63.10 (2013)	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 (2013)	N/A
Field Strength of the Fundamental Signal	47 CFR Part 15, Subpart C Section 15.249 (a)	ANSI C63.10 (2013)	PASS
Spurious Emissions	47 CFR Part 15, Subpart C Section 15.249 (a)/15.209	ANSI C63.10 (2013)	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15, Subpart C Section 15.249(a)/15.205	ANSI C63.10 (2013)	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.215 (c)	ANSI C63.10 (2013)	PASS

Remark:

Model No.: COD-QDR-DF(Remote Control), COD-QDR-BTSNG, COD-QDR-BTS

Only the model COD-QDR-DF(Remote Control) was tested, since the circuit design, PCB layout, electrical components used, internal wiring and functions were identical for the above models, only different on model number and color.



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5 General Information

5.1 Client Information

Applicant:	DGL Group, Ltd
Address of Applicant:	195 Raritan Center Parkway Edison, NJ 08837
Manufacturer:	DGL Group, Ltd
Address of Manufacturer:	195 Raritan Center Parkway Edison, NJ 08837
Factory:	DGL Group, Ltd
Address of Factory:	195 Raritan Center Parkway Edison, NJ 08837

5.2 General Description of EUT

Product Name:	Remote controlled aircraft
Model No.:	COD-QDR-DF(Remote Control)
Operation Frequency:	2453MHz~2475MHz
Modulation Type:	GFSK
Antenna Type:	Integral
Antenna Gain:	0dBi
EUT power supply:	Remote : DC 4.5V by 1.5V x 3 "AA" batteries



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Operation Frequency Each of Channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2453	8	2461	16	2469
1	2454	9	2462	17	2470
2	2455	10	2463	18	2471
3	2456	11	2464	19	2472
4	2457	12	2465	20	2473
5	2458	13	2466	21	2474
6	2459	14	2467	22	2475
7	2460	15	2468		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel(CH0)	2453MHz
The Middle channel(CH12)	2465MHz
The Highest channel(CH22)	2475MHz



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5.3 Test Environment and Mode

Operating Environment:	
Temperature:	250 °C
Humidity:	50 % RH
Atmospheric Pressure:	1015 mbar

5.4 Description of Support Units

The EUT has been tested independent unit.

5.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



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5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

- **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.



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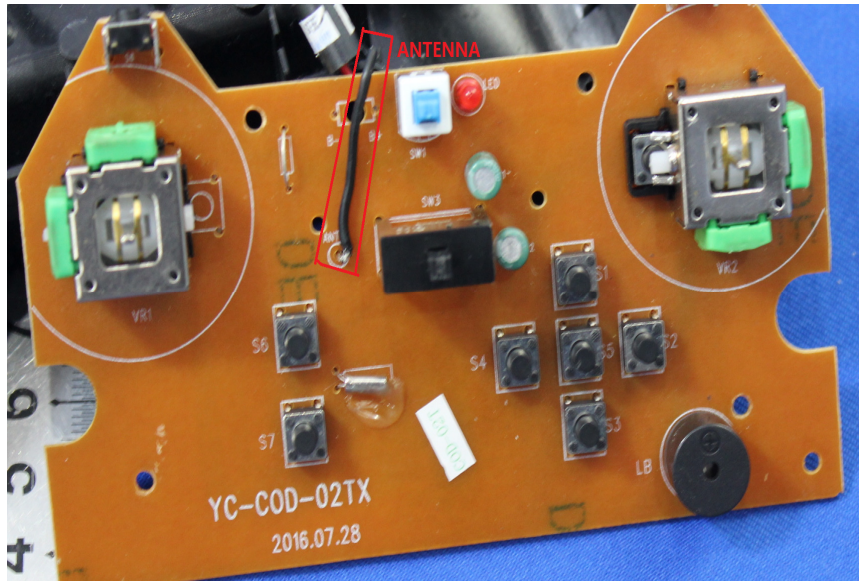
5.10 Equipment List

RF connected test						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
1	DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2016-10-09	2017-10-09
2	Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2016-10-09	2017-10-09
3	Signal Generator	Rohde & Schwarz	SML03	SEM006-02	2016-04-25	2017-04-25
4	Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2016-10-09	2017-10-09

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2016-05-13	2017-05-13
2	EXA Spectrum Analyzer	Agilent Technologies Inc	N9010A	SEM004-09	2016-07-19	2017-07-19
3	BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-02	2014-11-15	2017-11-15
4	Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2016-10-09	2017-10-09
5	Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2015-06-14	2018-06-14
6	Horn Antenna (18-26GHz)	ETS-Lindgren	3160	SEM003-12	2014-11-24	2017-11-24
7	Horn Antenna(26GHz-40GHz)	A.H.Systems, inc.	SAS-573	SEM003-13	2015-02-12	2018-02-12
8	Low Noise Amplifier	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2016-10-09	2017-10-09
9	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A
10	.Loop Antenna	ETS-Lindgren	6502	SEM003-08	2015-08-14	2018-08-14

6 Test results and Measurement Data

6.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203
<p>15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p>	
EUT Antenna:	 <p>The photograph shows an orange PCB with various components. A red box highlights a small antenna component labeled 'ANTENNA'. Other components include two green connectors labeled 'VR1' and 'VR2', several switches labeled 'S1' through 'S7', a blue LED, and a black component labeled 'SW3'. The PCB is marked with 'YC-COD-02TX' and '2016.07.28'.</p>
<p>The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.</p>	



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6.2 Radiated Emission

Test Requirement:	47 CFR Part 15C Section 15.249 and 15.209				
Test Method:	ANSI C63.10: 2013				
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber) 3m (Fully-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30KHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30KHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30KHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30KHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30KHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100 kHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	
Limit: (Spurious Emissions)	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F (kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F (kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.					
Limit: (Field strength of the fundamental signal)	Frequency	Limit (dBuV/m @3m)		Remark	
	2400MHz-2483.5MHz	94.0		Average Value	
		114.0		Peak Value	
Test Setup:					

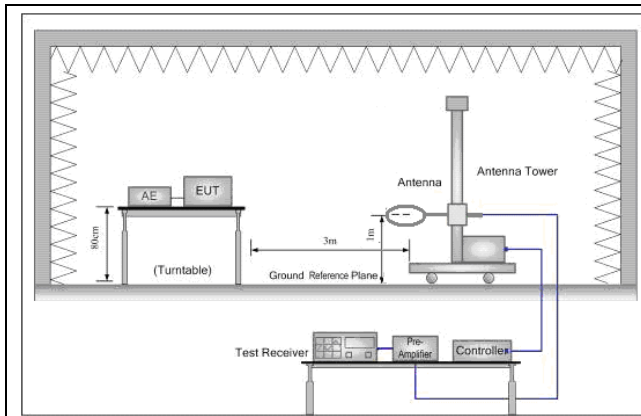


Figure 1. Below 30MHz

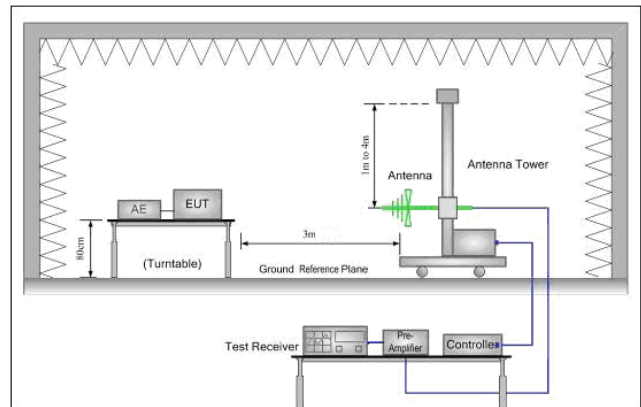


Figure 2. 30MHz to 1GHz

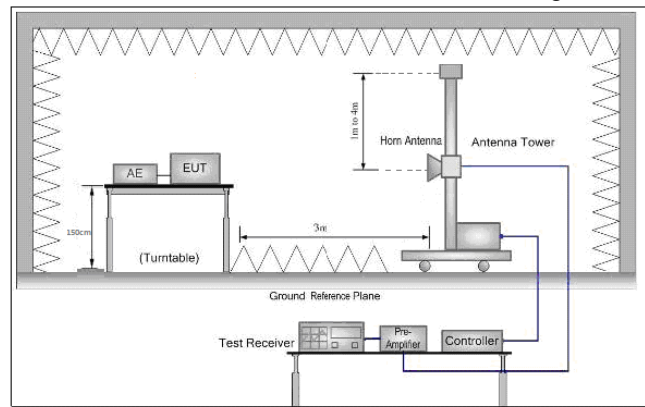


Figure 3. Above 1 GHz

<p>Test Procedure:</p>	<ol style="list-style-type: none"> For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter Fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
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	<p>h. Test the EUT in the lowest channel,the middle channel,the Highest channel i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.</p>
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting mode
Final Test Mode:	Transmitting mode
Test Results:	Pass



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Measurement Data

6.2.1.1 Field Strength Of The Fundamental Signal

Peak value:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2452.864	29.26	5.39	38.15	106.07	102.57	114.00	-11.43	Horizontal
2452.864	29.26	5.39	38.15	107.40	103.90	114.00	-10.10	Vertical
2464.834	29.30	5.39	38.15	105.52	102.06	114.00	-11.94	Horizontal
2464.804	29.30	5.39	38.15	106.26	102.80	114.00	-11.20	Vertical
2474.820	29.33	5.40	38.15	106.70	103.28	114.00	-10.72	Horizontal
2474.820	29.33	5.40	38.15	104.95	101.53	114.00	-12.47	Vertical

Average value:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2452.864	29.26	5.39	38.15	80.53	77.03	94.00	-16.97	Horizontal
2452.864	29.26	5.39	38.15	82.05	78.55	94.00	-15.45	Vertical
2464.834	29.30	5.39	38.15	80.12	76.66	94.00	-17.34	Horizontal
2464.804	29.30	5.39	38.15	82.35	78.89	94.00	-15.11	Vertical
2474.820	29.33	5.40	38.15	80.24	76.82	94.00	-17.18	Horizontal
2474.820	29.33	5.40	38.15	82.09	78.67	94.00	-15.33	Vertical



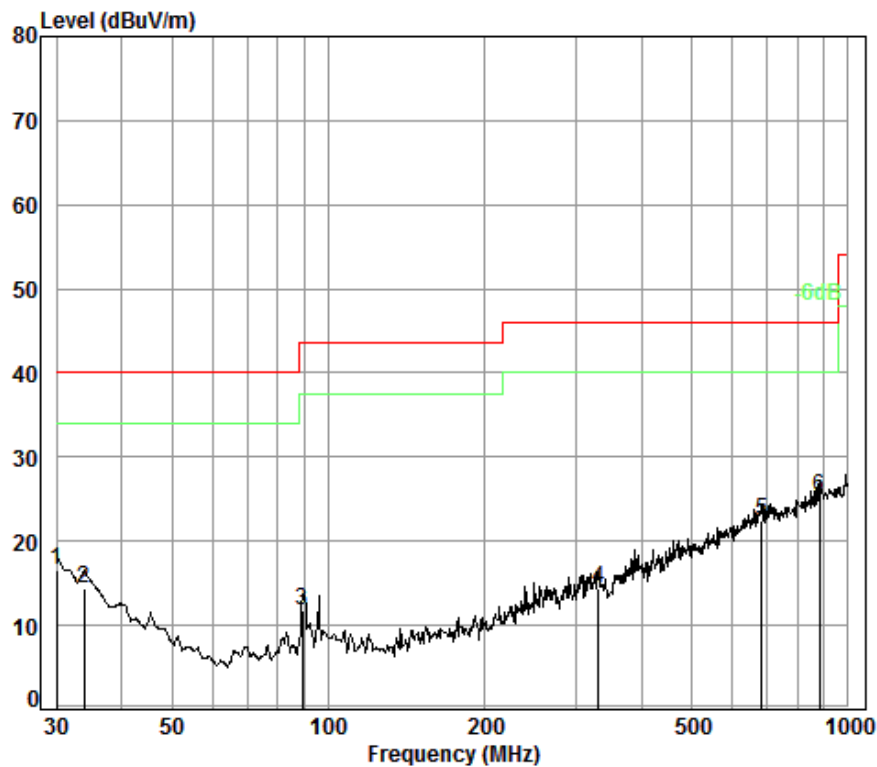
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6.2.1.2 Spurious Emissions

30MHz~1GHz (QP)			
Test mode:	Transmitter mode	Polarization:	Vertical



Condition: 3m VERTICAL

Job No. : 9313CR

Test mode: Tx mode

: Remote

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	30.00	0.60	18.70	27.36	24.61	16.55	40.00	-23.45
2	33.92	0.60	16.51	27.34	24.70	14.47	40.00	-25.53
3	89.28	1.10	8.63	27.22	29.22	11.73	43.50	-31.77
4	331.35	2.00	14.57	26.64	24.45	14.38	46.00	-31.62
5	682.35	2.87	21.46	27.43	25.61	22.51	46.00	-23.49
6 pp	881.41	3.53	23.05	26.85	25.62	25.35	46.00	-20.65

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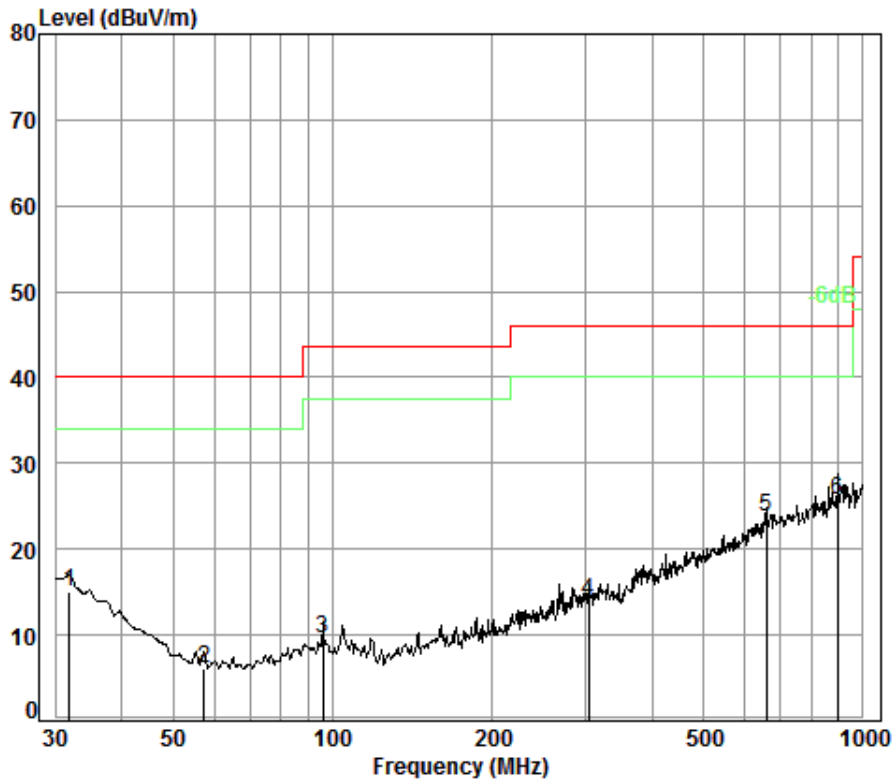


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Test mode:	Transmitter mode	Polarization:	Horizontal
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Condition: 3m HORIZONTAL
Job No. : 9313CR
Test mode: Tx mode
: Remote

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	31.95	0.60	17.61	27.35	24.20	15.06	40.00	-24.94
2	57.19	0.80	7.62	27.27	24.98	6.13	40.00	-33.87
3	96.10	1.16	8.94	27.21	26.77	9.66	43.50	-33.84
4	303.54	1.91	14.03	26.42	24.45	13.97	46.00	-32.03
5	656.53	2.82	20.81	27.47	27.64	23.80	46.00	-22.20
6 pp	897.00	3.59	23.18	26.78	25.76	25.75	46.00	-20.25



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Above 1GHz

Test mode:		Transmitter		Test channel:		Lowest		Remark:		Peak
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4906.000	34.34	9.01	39.07	60.42	64.70	74.00	-9.30	Vertical		
7359.000	36.36	10.74	38.03	54.62	63.69	74.00	-10.31	Vertical		
9812.322	37.56	12.61	36.89	40.54	53.82	74.00	-20.18	Vertical		
4906.000	34.34	9.01	39.07	62.16	66.44	74.00	-7.56	Horizontal		
7359.000	36.36	10.74	38.03	53.89	62.96	74.00	-11.04	Horizontal		
9812.322	37.56	12.61	36.89	40.25	53.53	74.00	-20.47	Horizontal		

Test mode:		Transmitter		Test channel:		Lowest		Remark:		Average
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over limit	Polarization		
4906.000	34.34	9.01	39.07	40.23	44.51	54.00	-9.49	Vertical		
7359.000	36.36	10.74	38.03	32.34	41.41	54.00	-12.59	Vertical		
4906.000	34.34	9.01	39.07	40.22	44.50	54.00	-9.50	Horizontal		
7359.000	36.36	10.74	38.03	32.42	41.49	54.00	-12.51	Horizontal		



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Test mode:		Transmitter		Test channel:		Middle	Remark:		Peak
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4930.000	34.38	9.04	39.07	64.10	68.45	74.00	-5.55	Vertical	
7395.000	36.34	10.75	37.99	55.01	64.11	74.00	-9.89	Vertical	
9855.008	37.57	12.63	36.87	39.12	52.45	74.00	-21.55	Vertical	
4930.000	34.38	9.04	39.07	61.70	66.05	74.00	-7.95	Horizontal	
7395.000	36.34	10.75	37.99	55.42	64.52	74.00	-9.48	Horizontal	
9855.008	37.57	12.63	36.87	39.03	52.36	74.00	-21.64	Horizontal	

Test mode:		Transmitter		Test channel:		Middle	Remark:		Average
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over limit	Polarization	
4930.000	34.38	9.04	39.07	43.23	47.58	54.00	-6.42	Vertical	
7395.000	36.34	10.75	37.99	34.23	43.33	54.00	-10.67	Vertical	
4930.000	34.38	9.04	39.07	41.35	45.70	54.00	-8.30	Horizontal	
7395.000	36.34	10.75	37.99	34.56	43.66	54.00	-10.34	Horizontal	



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Test mode:		Transmitter		Test channel:		Highest		Remark:		Peak
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamplifier Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4950.000	34.41	9.07	39.08	60.48	64.88	74.00	-9.12	Vertical		
7425.000	36.33	10.76	37.96	54.65	63.78	74.00	-10.22	Vertical		
9897.879	37.58	12.66	36.85	39.17	52.56	74.00	-21.44	Vertical		
4950.000	34.41	9.07	39.08	63.20	67.60	74.00	-6.40	Horizontal		
7425.000	36.33	10.76	37.96	55.19	64.32	74.00	-9.68	Horizontal		
9897.879	37.58	12.66	36.85	38.77	52.16	74.00	-21.84	Horizontal		

Test mode:		Transmitter		Test channel:		Highest		Remark:		Average
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamplifier factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over limit	Polarization		
4950.000	34.41	9.07	39.08	40.32	44.72	54.00	-9.28	Vertical		
7425.000	36.33	10.76	37.96	33.24	42.37	54.00	-11.63	Vertical		
4950.000	34.41	9.07	39.08	43.15	47.55	54.00	-6.45	Horizontal		
7425.000	36.33	10.76	37.96	34.23	43.36	54.00	-10.64	Horizontal		

Remark:

- The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- Scan from 9kHz to 25GHz, The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported .

6.3 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber) 3m (Fully-Anechoic Chamber)		
Limit(band edge):	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.		
	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
74.0		Peak Value	

Test Setup:

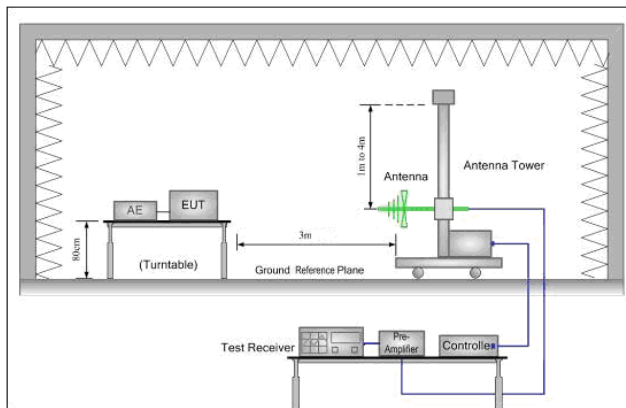


Figure 1. 30MHz to 1GHz

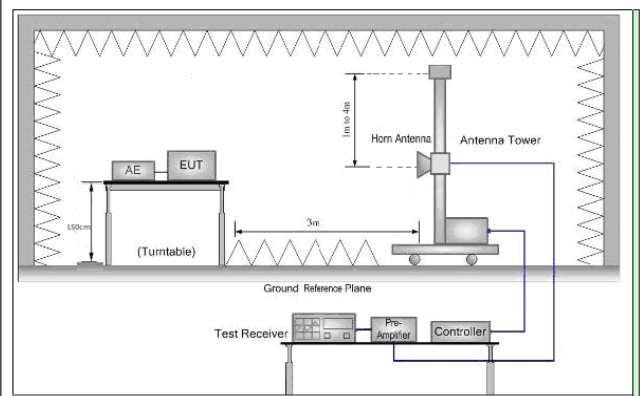


Figure 2. Above 1 GHz



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Test Procedure:	<ol style="list-style-type: none">a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter Fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiationc. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channelh. Test the EUT in the lowest channel , the Highest channeli. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.j. Repeat above procedures until all frequencies measured was complete.
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting mode
Final Test Mode:	Transmitting mode
Test Results:	Pass



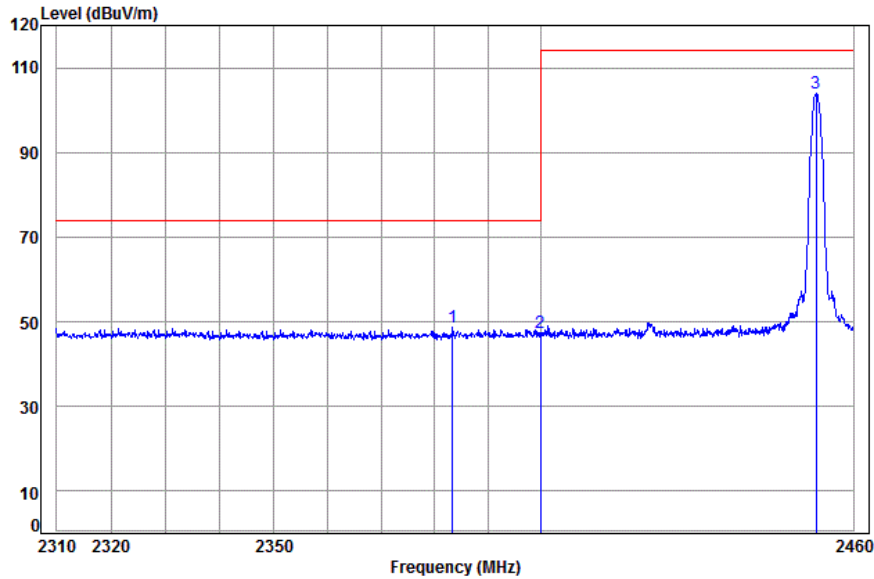
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Test plot as follows:

Test mode:	GFSK	Test channel:	Lowest	Remark:	Peak	Vertical
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Condition: 3m VERTICAL
 Job No: : 9313CR
 Mode: : 2453
 : 2.4G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2383.425	5.33	29.06	38.14	52.32	48.57	74.00	-25.43	
2	2400.000	5.34	29.11	38.14	51.11	47.42	74.00	-26.58	
3	pp 2452.864	5.39	29.26	38.15	107.40	103.90	114.00	-10.10	

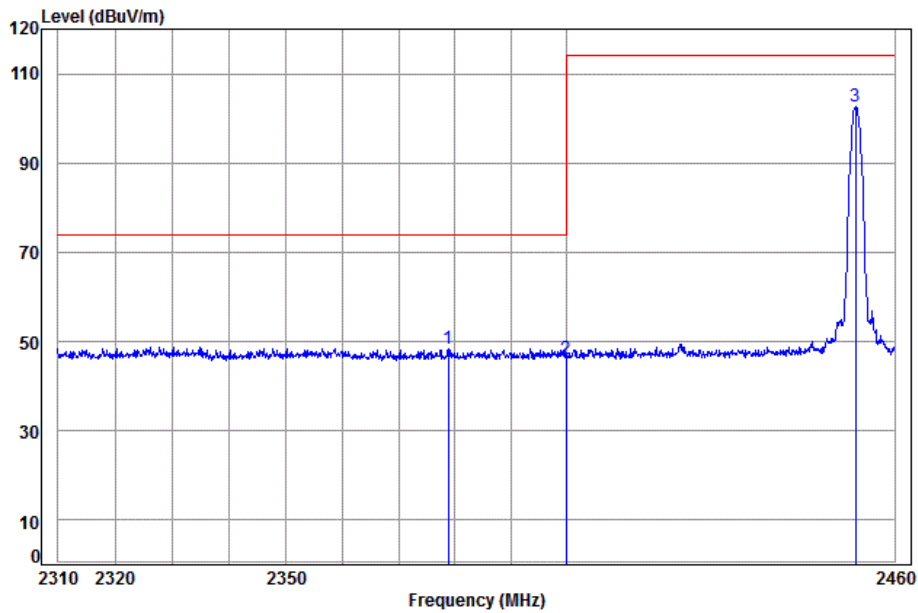


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Test mode:	GFSK	Test channel:	Lowest	Remark:	Peak	Horizontal
------------	------	---------------	--------	---------	------	------------



Condition: 3m HORIZONTAL

Job No: : 9313CR

Mode: : 2453

: 2.4G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2378.781	5.33	29.04	38.14	52.28	48.51	74.00	-25.49	
2	2400.000	5.34	29.11	38.14	49.95	46.26	74.00	-27.74	
3 pp	2452.864	5.39	29.26	38.15	106.07	102.57	114.00	-11.43	

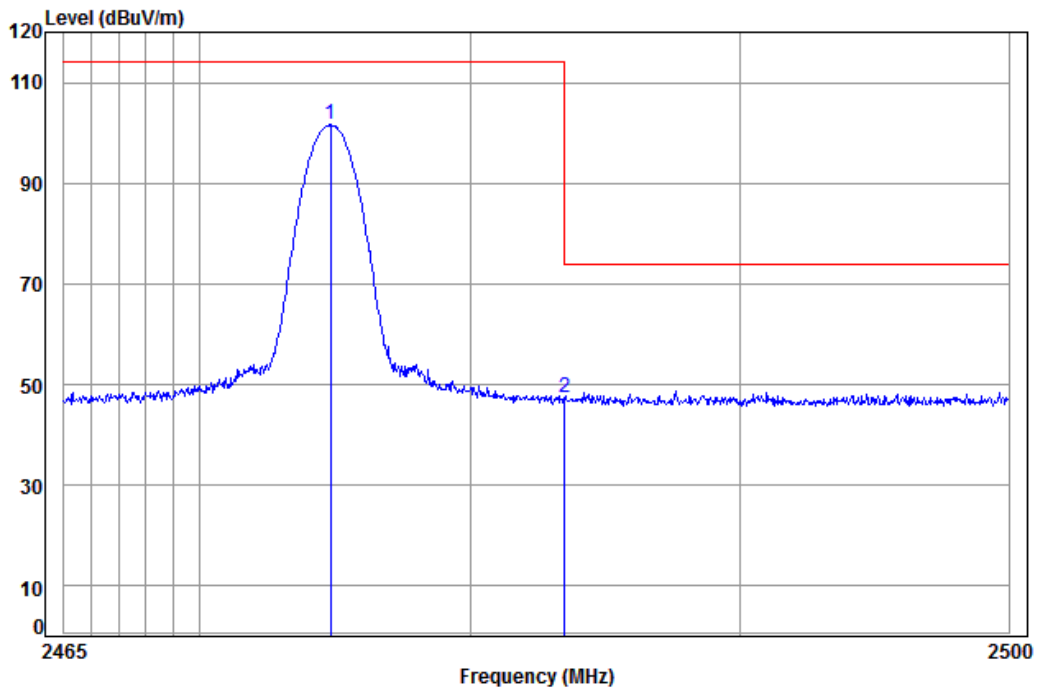


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Test mode:	GFSK	Test channel:	Highest	Remark:	Peak	Vertical
------------	------	---------------	---------	---------	------	----------



Condition: 3m VERTICAL
 Job No: : 9312CR
 Mode: : 2475 Bandedge
 : 2.4G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	2474.820	5.40	29.33	38.15	104.95	101.53	114.00	-12.47
2	2483.500	5.41	29.35	38.15	50.68	47.29	74.00	-26.71

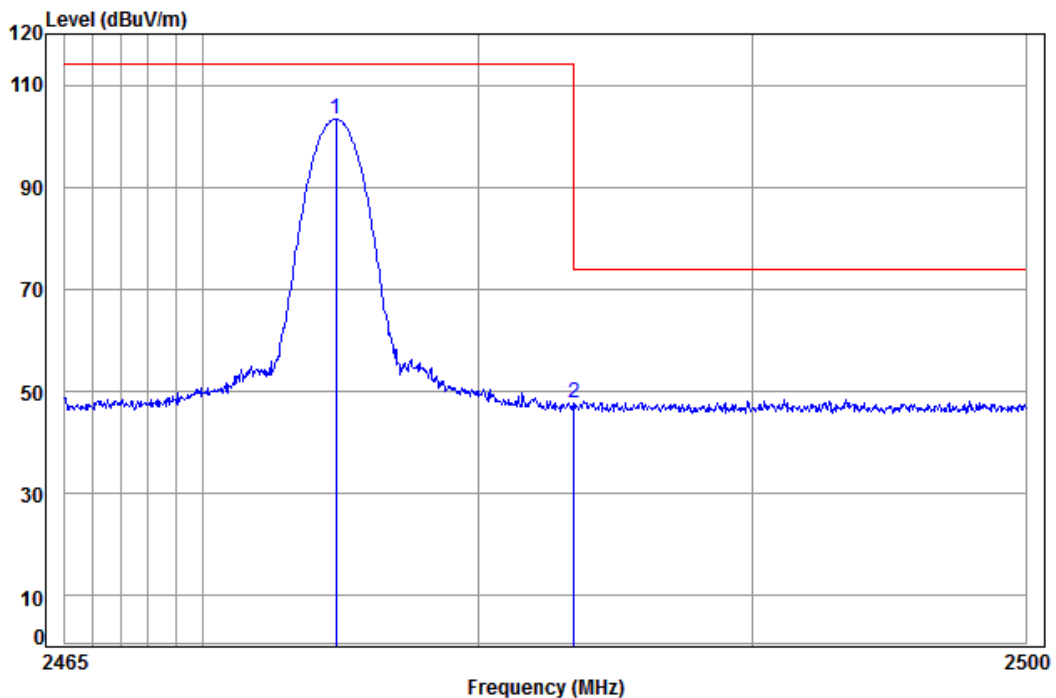


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Test mode:	GFSK	Test channel:	Highest	Remark:	Peak	Horizontal
------------	------	---------------	---------	---------	------	------------



Condition: 3m HORIZONTAL
 Job No: : 9312CR
 Mode: : 2475 Bandedge
 : 2.4G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1 pp	2474.820	5.40	29.33	38.15	106.70	114.00	-10.72
2	2483.500	5.41	29.35	38.15	51.16	74.00	-26.23

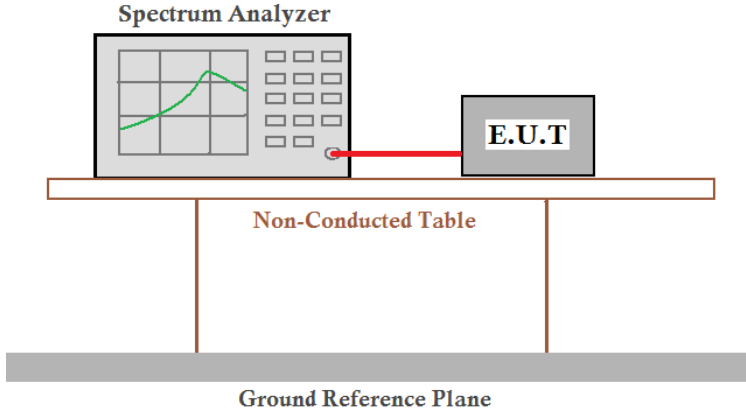
Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Preamplifier Factor}$$

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6.4 20dB Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.215
Test Method:	ANSI C63.10:2013
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of data type
Final Test Mode:	Through Pre-scan, find the DH3 of date type is the worse case of 8DPSK modulation type
Limit:	N/A
Test Results:	Pass

Measurement Data

Test channel	20dB bandwidth (MHz)	Results
Lowest	2.340	Pass
Middle	2.400	Pass
Highest	2.300	Pass



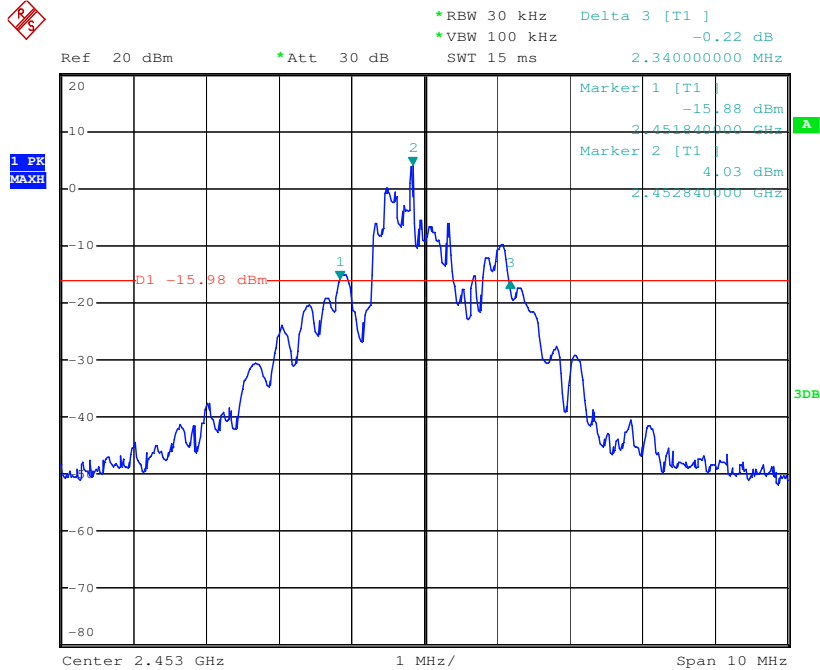
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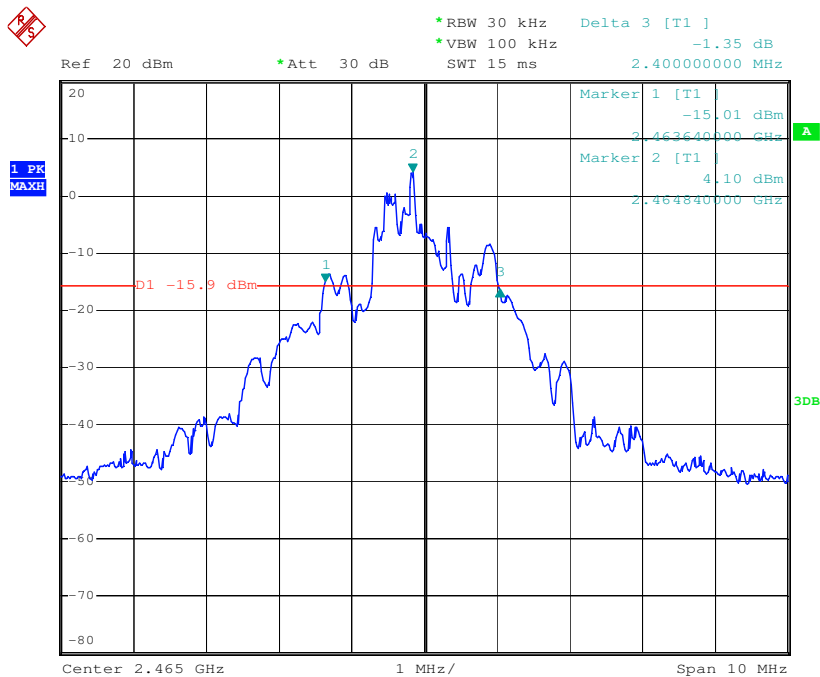
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Test plot as follows:

Test channel:	Lowest
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Test channel:	Middle
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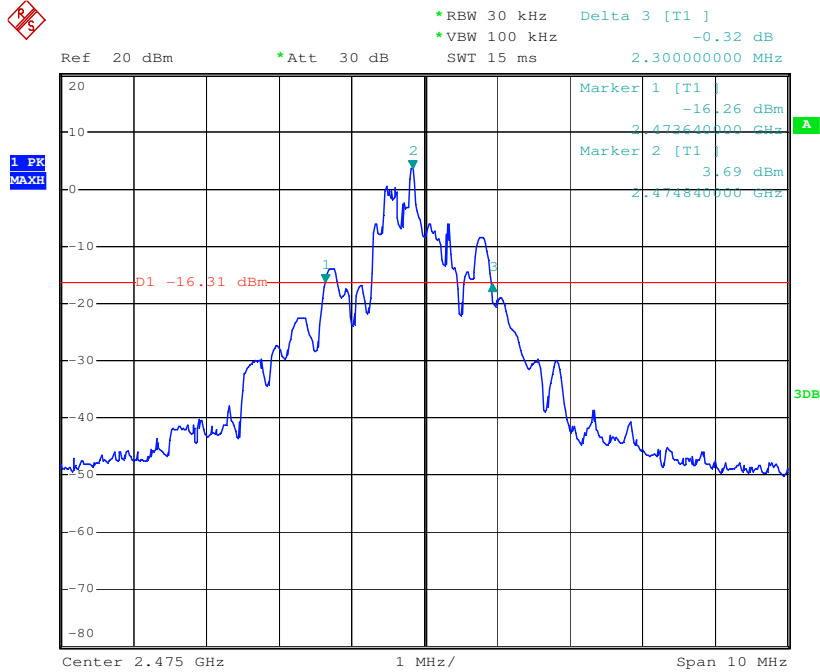


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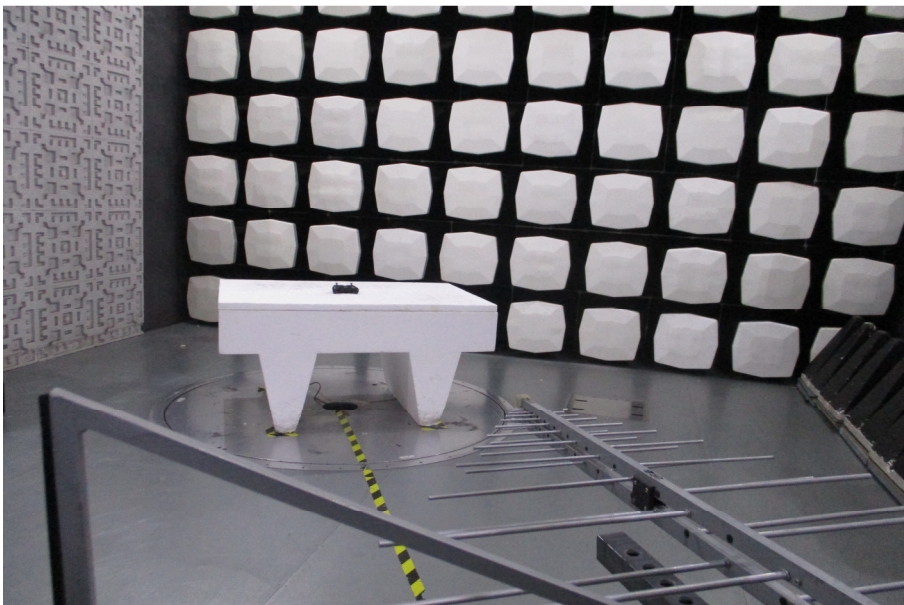
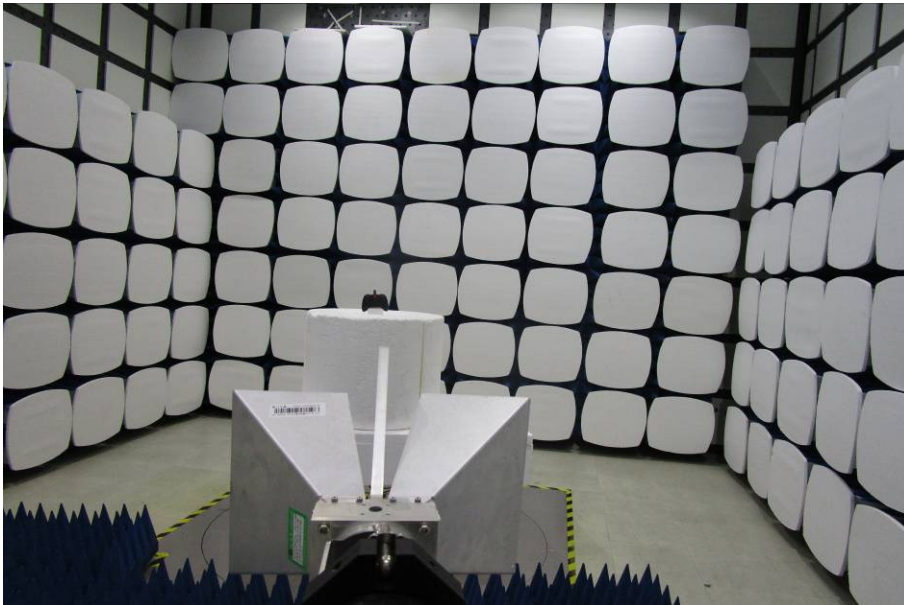
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Test channel: Highest



7 Photographs

7.1 Radiated Emission Test Setup



7.2 EUT Constructional Details





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