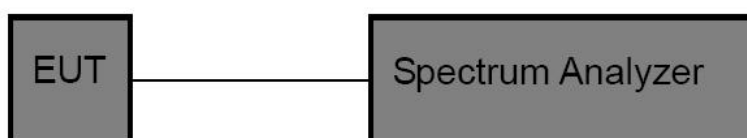


## 13 100kHz Bandwidth of Frequency Band Edge Requirement

### 13.1 Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (d)
Test Limit	in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

### 13.2 Test Setup



### 13.3 Test Procedure

The EUT must have its hopping/Non-hopping function enabled. Using the following spectrum analyzer setting:

1. Set the RBW = 100kHz.
2. Set the VBW = 300kHz.
3. Sweep time = auto couple.
4. Detector function = peak.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.

### 13.4 Test Data

#### Non-Hopping

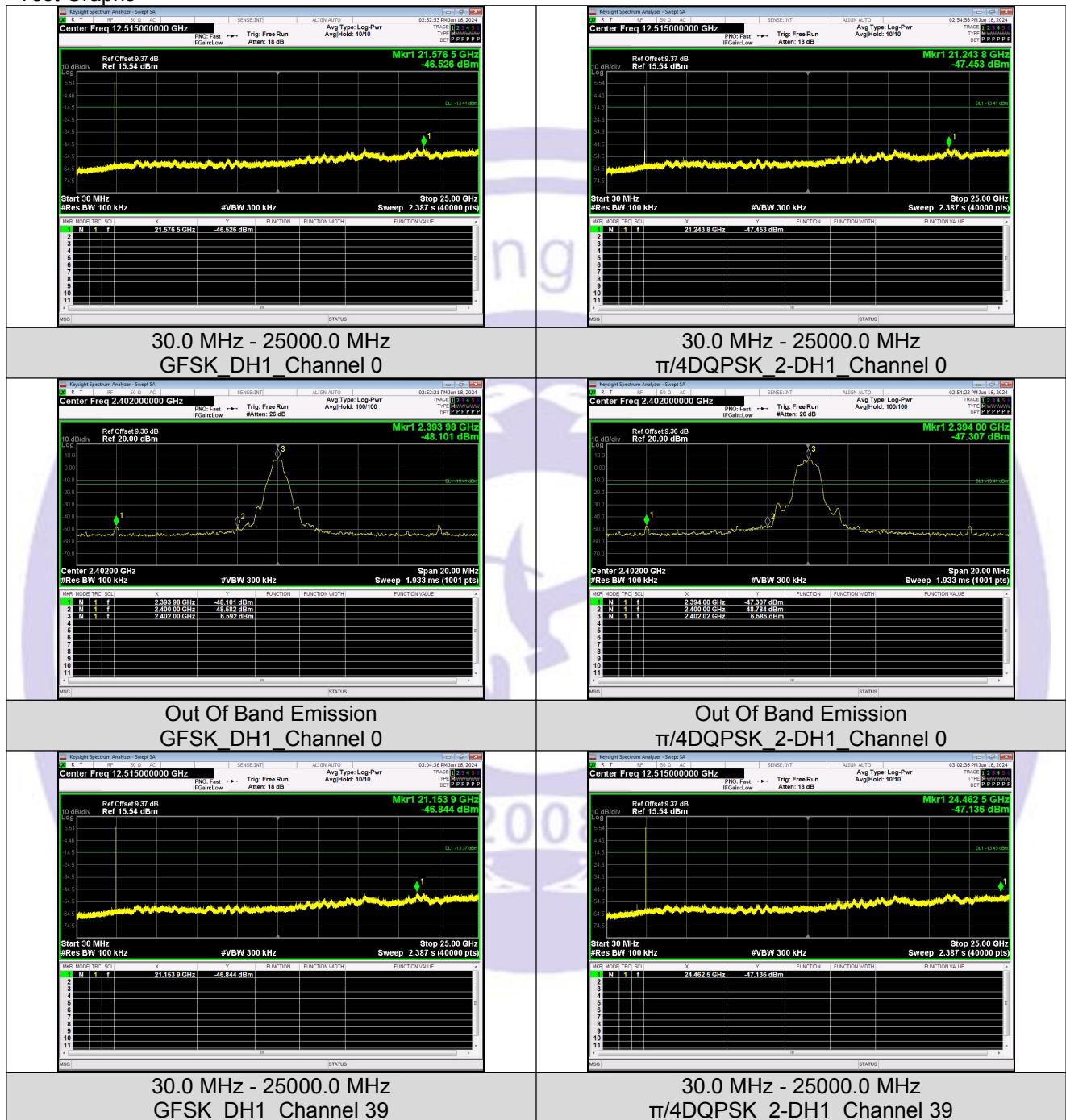
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH1	0	2393.98	-48.101	-13.41	-34.691	PASS
			2400.00	-48.582	-13.41	-35.172	PASS
			21576.5	-46.526	-13.41	-33.116	PASS
		39	21153.9	-46.844	-13.37	-33.474	PASS
		78	2483.50	-52.277	-12.46	-39.817	PASS
			21140.8	-47.092	-12.46	-34.632	PASS
$\pi/4$ DQPSK	2-DH1	0	2394.00	-47.307	-13.41	-33.897	PASS
			2400.00	-48.784	-13.41	-35.374	PASS
			21243.8	-47.453	-13.41	-34.043	PASS
		39	24462.5	-47.136	-13.43	-33.706	PASS
		78	2483.50	-52.779	-12.48	-40.299	PASS
			17877.1	-46.361	-12.48	-33.880	PASS
8DPSK	3-DH1	0	2394.00	-47.173	-13.39	-33.783	PASS
			2400.00	-48.168	-13.39	-34.778	PASS
			21204.5	-47.517	-13.39	-34.127	PASS
		39	21162.6	-46.087	-13.34	-32.747	PASS
		78	2483.50	-50.988	-12.44	-38.548	PASS
			21153.3	-47.077	-12.44	-34.637	PASS

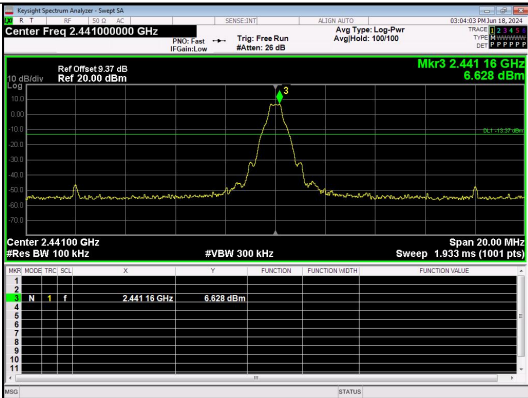
#### Hopping

Hopping							
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH1	Hopping	2400.00	-47.139	-13.31	-33.829	PASS
			2483.50	-52.394	-12.38	-40.014	PASS
$\pi/4$ DQPSK	2-DH1		2395.00	-47.647	-13.34	-34.307	PASS
			2400.00	-47.795	-13.34	-34.455	PASS
			2483.50	-51.624	-12.36	-39.264	PASS
8DPSK	3-DH1		2396.00	-46.725	-13.35	-33.375	PASS
			2400.00	-49.507	-13.35	-36.157	PASS
			2483.50	-50.929	-12.31	-38.619	PASS

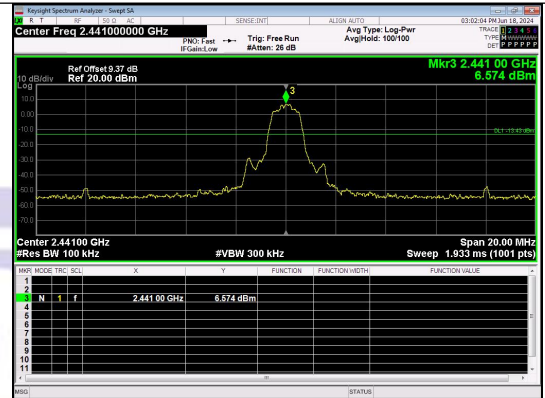


## Test Graphs

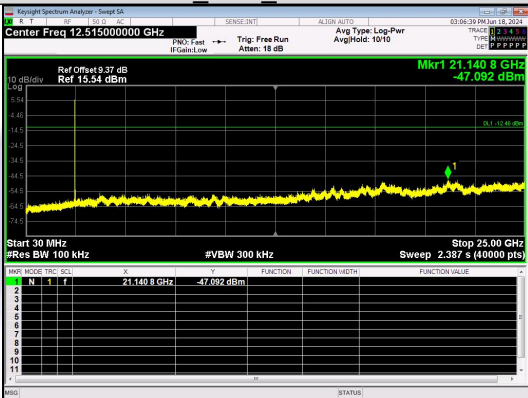




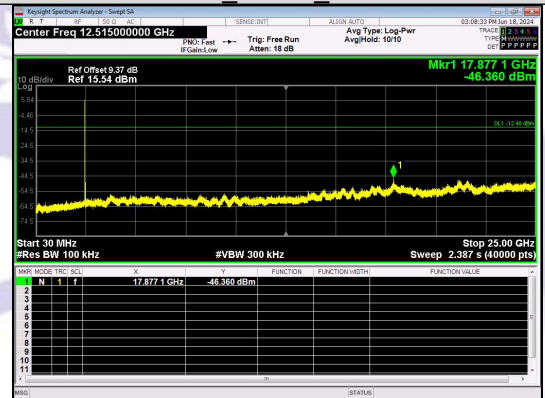
Out Of Band Emission  
GFSK\_DH1\_Channel 39



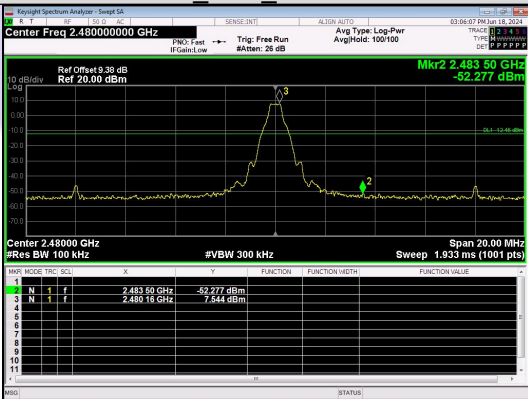
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH1\_Channel 39



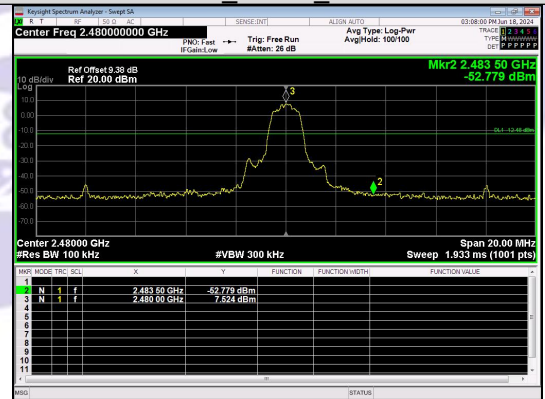
30.0 MHz - 25000.0 MHz  
GFSK\_DH1\_Channel 78



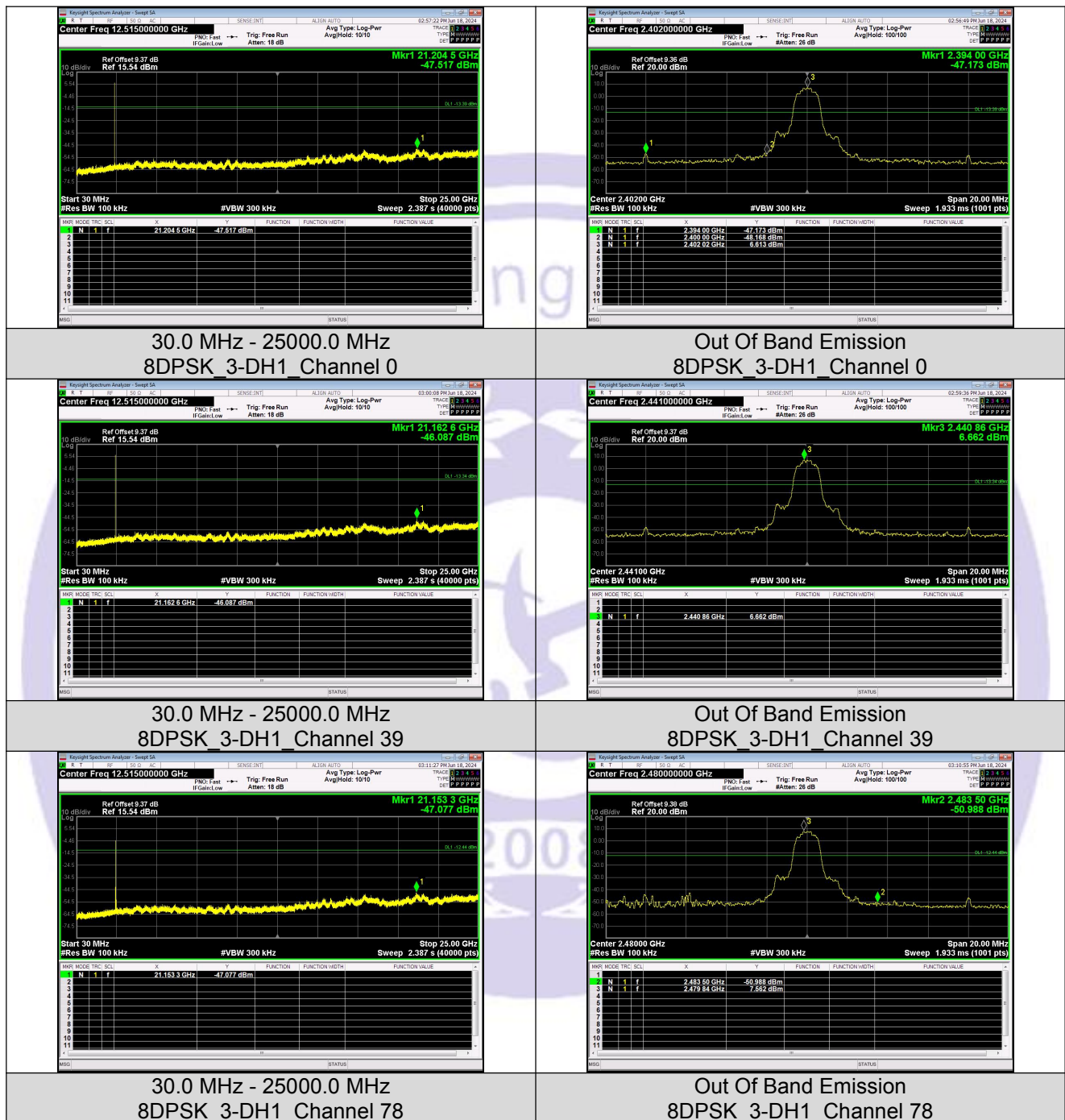
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH1\_Channel 78

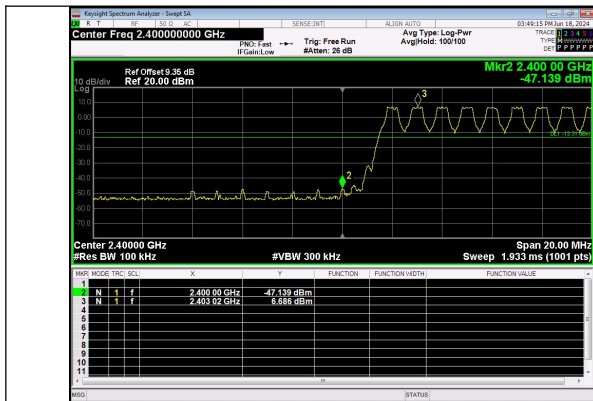


Out Of Band Emission  
GFSK\_DH1\_Channel 78



Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH1\_Channel 78

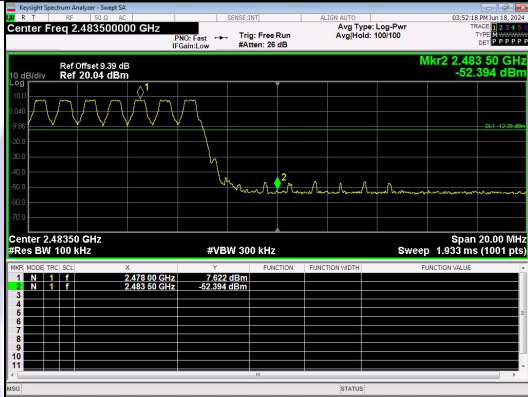




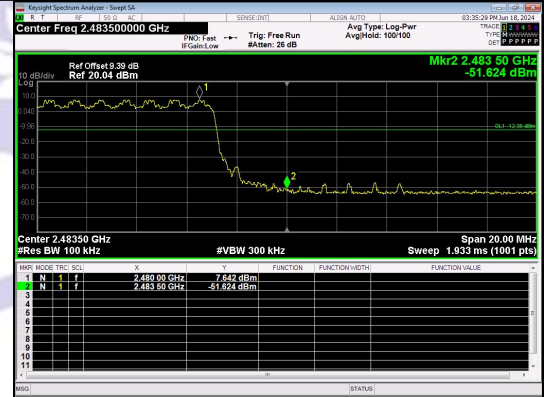
Out Of Band Emission(Left)  
GFSK\_DH1\_Channel Hopping



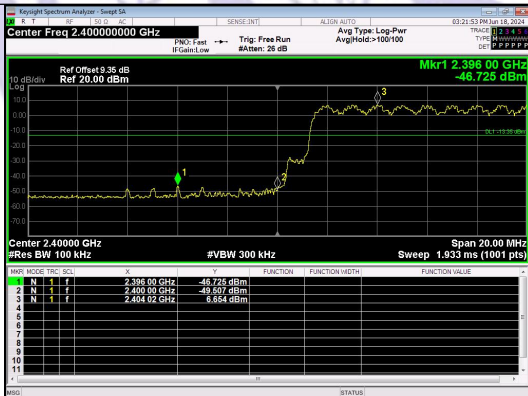
Out Of Band Emission(Left)  
 $\pi/4$ DQPSK\_2-DH1\_Channel Hopping



Out Of Band Emission(Right)  
GFSK\_DH1\_Channel Hopping



Out Of Band Emission(Right)  
 $\pi/4$ DQPSK\_2-DH1\_Channel Hopping



Out Of Band Emission(Left)  
8DPSK\_3-DH1\_Channel Hopping



Out Of Band Emission(Right)  
8DPSK\_3-DH1\_Channel Hopping



## 14 Antenna Requirement

### 14.1 Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203 /247(c)
Requirement	<p>1) 15.203 requirement:</p> <p>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> <p>2) 15.247(c) (1)(i) requirement:</p> <p>Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.</p>

### 14.2 Antenna Connected Construction

The antenna is PCB Antenna which permanently attached, and the best case gain of the antenna is 0dBi. It complies with the standard requirement.

## 15 APPENDIX I -- TEST SETUP PHOTOGRAPH

Please see the attachment for details.



## 16 APPENDIX II -- EUT PHOTOGRAPH

Please see the attachment for details.

----- End of Report -----

