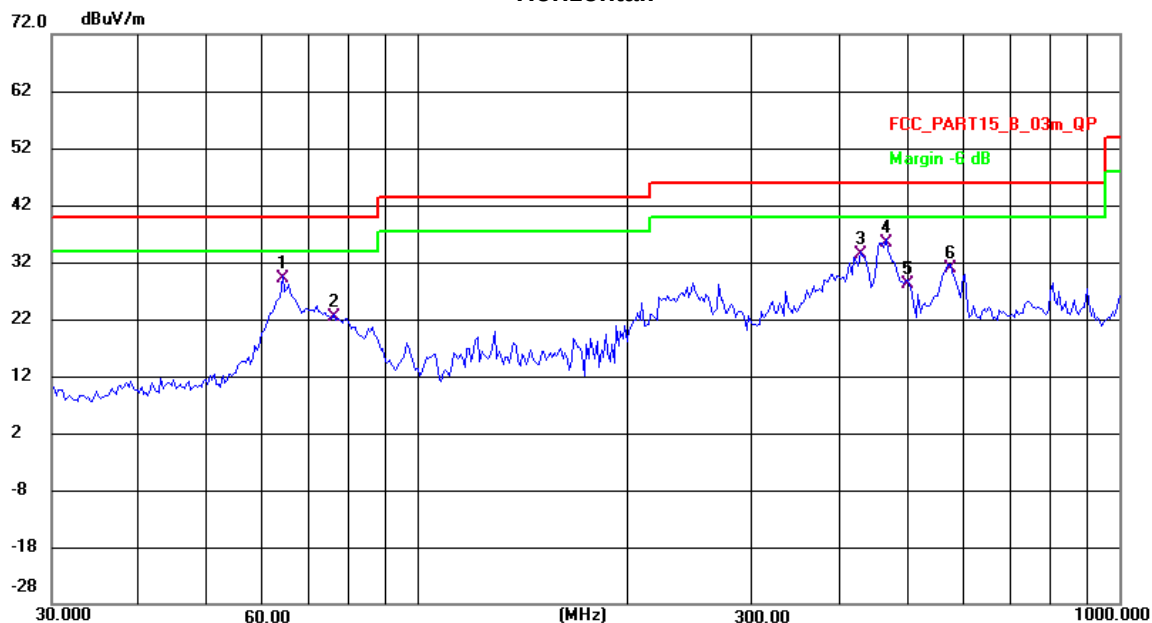


Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	64.0800	52.36	-23.15	29.21	40.00	-10.79	QP	200	349	P	
2	75.8520	47.45	-25.11	22.34	40.00	-17.66	QP	216	182	P	
3	427.2920	51.57	-18.31	33.26	46.00	-12.74	QP	108	263	P	
4 *	464.8867	52.91	-17.49	35.42	46.00	-10.58	QP	100	255	P	
5	498.7303	45.00	-16.81	28.19	46.00	-17.81	QP	200	233	P	
6	573.9882	45.51	-14.60	30.91	46.00	-15.09	QP	169	290	P	

Remark: All modes have been tested, and only worst data of GFSK mode, Channel 2402MHz was listed in this report.

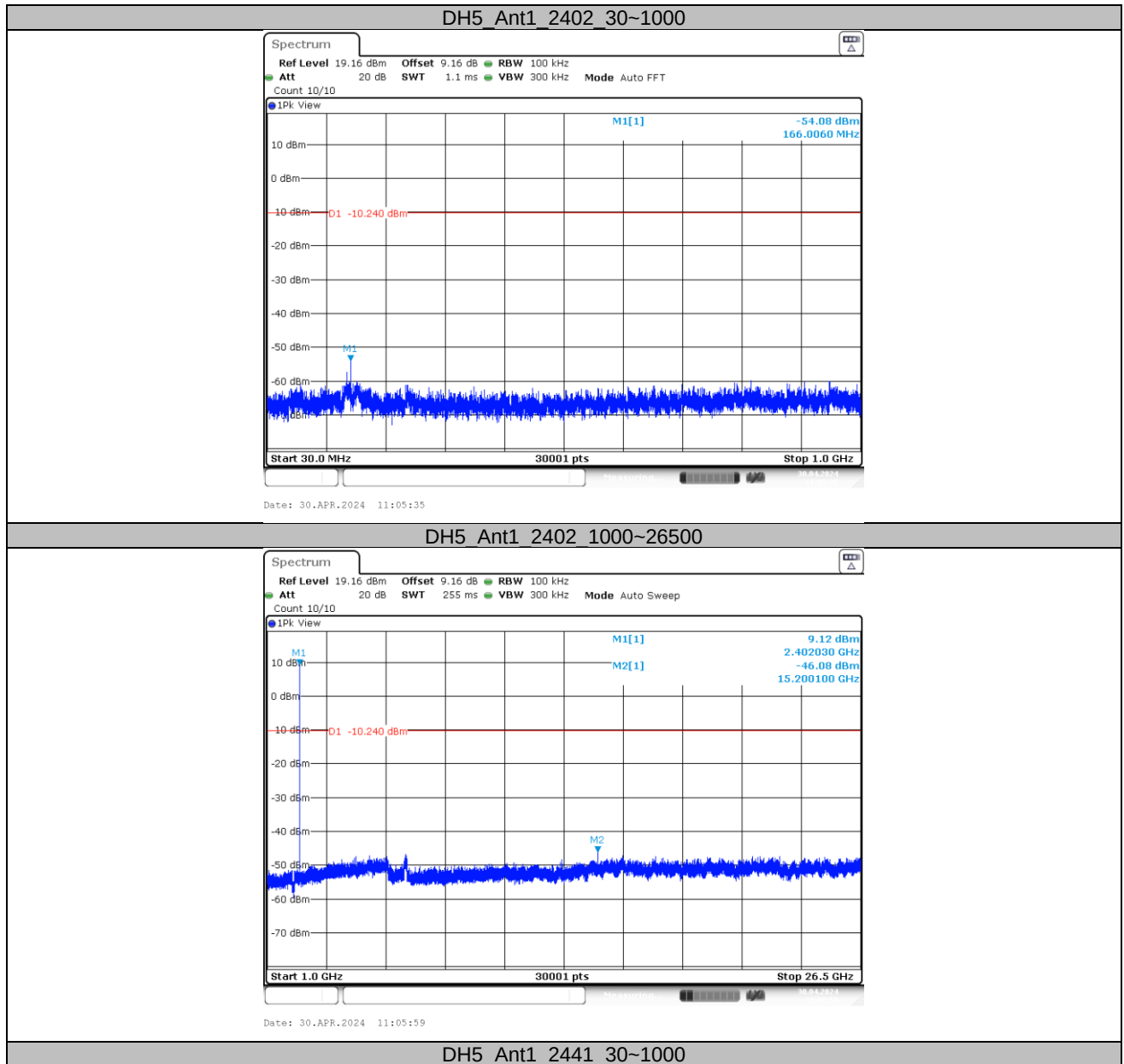
From 1G-25GHz

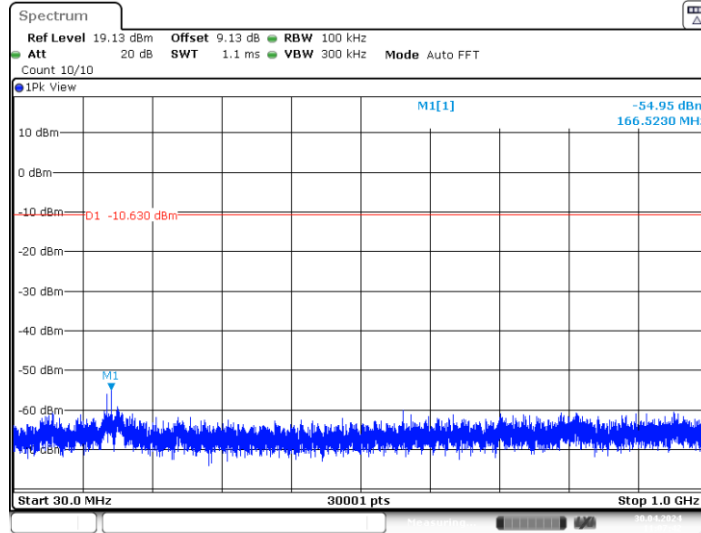
All modes had been tested, only show the worst mode GFSK

Test Mode: GFSK TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4804	53.74	V	33.93	10.18	34.26	63.59	74	-10.10	PK
4804	41.58	V	33.93	10.18	34.26	51.43	54	-1.71	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
4804	52.96	H	33.93	10.18	34.26	62.81	74	-10.21	PK
4804	38.01	H	33.93	10.18	34.26	47.86	54	-6.14	38.01
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
Test Mode: GFSK TX Mid									
4882	51.05	V	33.95	10.20	34.97	60.23	74	-13.77	PK
4882	38.19	V	33.95	10.20	34.97	47.37	54	-6.63	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
4882	50.83	H	33.95	10.20	34.97	60.01	74	-13.99	PK
4882	40.13	H	33.95	10.20	34.97	49.31	54	-4.69	AV
7323	/	/	/	/	/	/	/	/	/
9764	/	/	/	/	/	/	/	/	/
Test Mode: GFSK TX High									
4960	49.83	V	33.98	10.22	34.25	59.78	74	-14.22	PK
4960	37.01	V	33.98	10.22	34.25	46.96	54	-7.04	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
4960	50.23	H	33.98	10.22	34.25	60.18	74	-13.82	PK
4960	38.01	H	33.98	10.22	34.25	47.96	54	-6.04	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
Note:									
1, Result = Read level + Antenna factor + cable loss-Amp factor									
2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

Conducted RF Spurious Emission

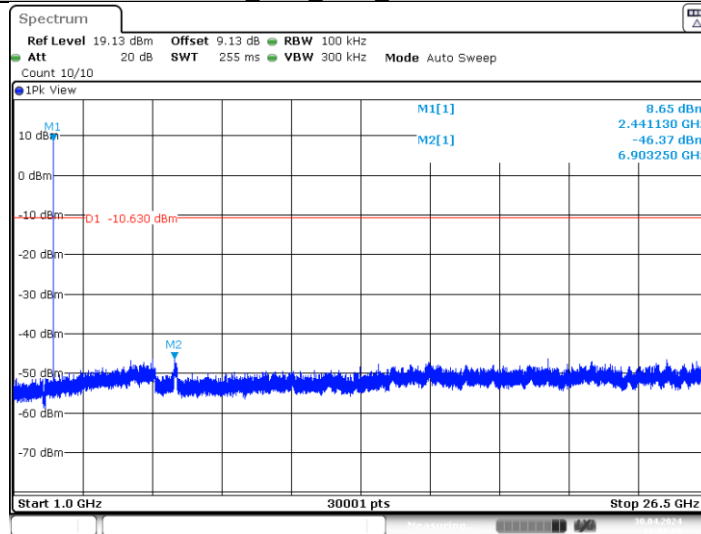
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~1000	9.76	-54.08	≤-10.24	PASS
			1000~26500	9.76	-46.08	≤-10.24	PASS
		2441	30~1000	9.37	-54.95	≤-10.63	PASS
			1000~26500	9.37	-46.37	≤-10.63	PASS
		2480	30~1000	5.12	-54.5	≤-14.88	PASS
			1000~26500	5.12	-45.66	≤-14.88	PASS
2DH5	Ant1	2402	30~1000	9.71	-54.82	≤-10.29	PASS
			1000~26500	9.71	-45.71	≤-10.29	PASS
		2441	30~1000	9.06	-53.08	≤-10.94	PASS
			1000~26500	9.06	-46.37	≤-10.94	PASS
		2480	30~1000	4.00	-36.3	≤-16	PASS
			1000~26500	4.00	-43.34	≤-16	PASS
3DH5	Ant1	2402	30~1000	9.44	-54.67	≤-10.56	PASS
			1000~26500	9.44	-46.24	≤-10.56	PASS
		2441	30~1000	8.68	-56.43	≤-11.32	PASS
			1000~26500	8.68	-46.56	≤-11.32	PASS
		2480	30~1000	3.75	-54.32	≤-16.25	PASS
			1000~26500	3.75	-46.61	≤-16.25	PASS





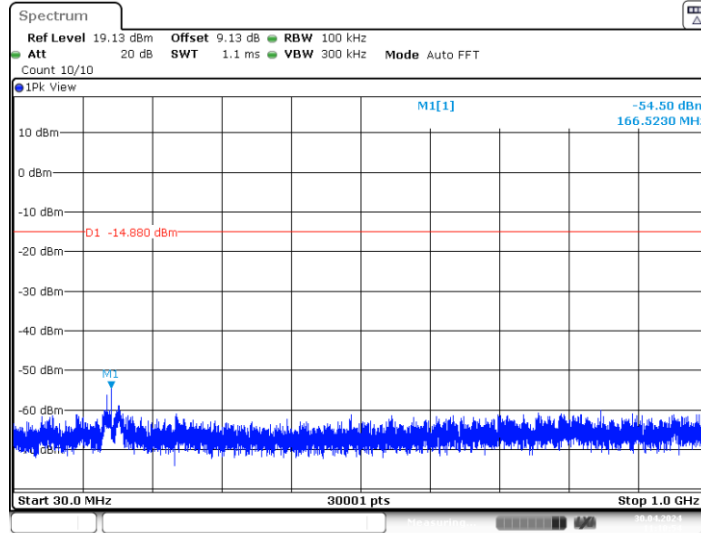
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DH5_Ant1_2441_1000~26500



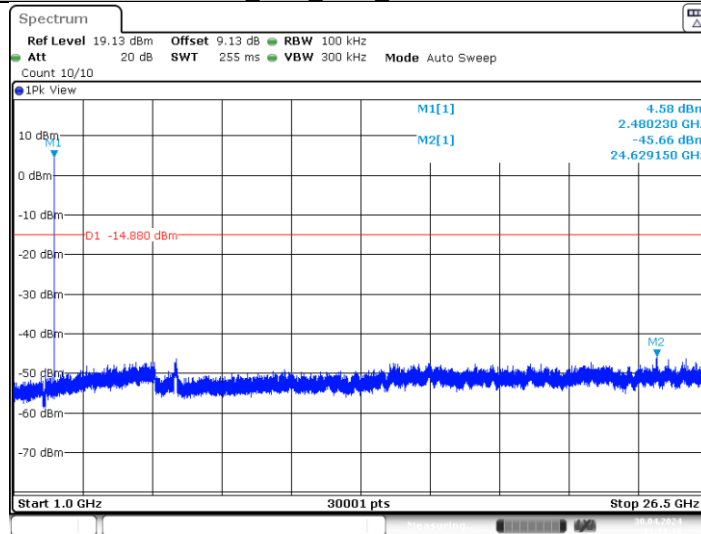
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DH5_Ant1_2480_30~1000



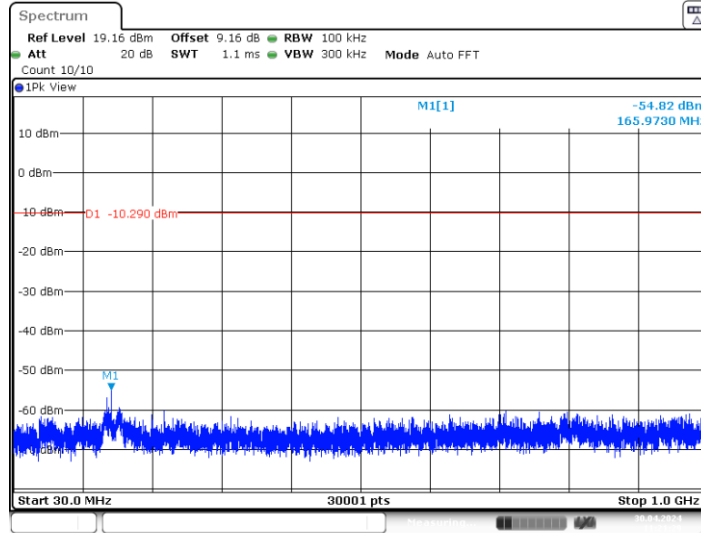
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DH5_Ant1_2480_1000~26500



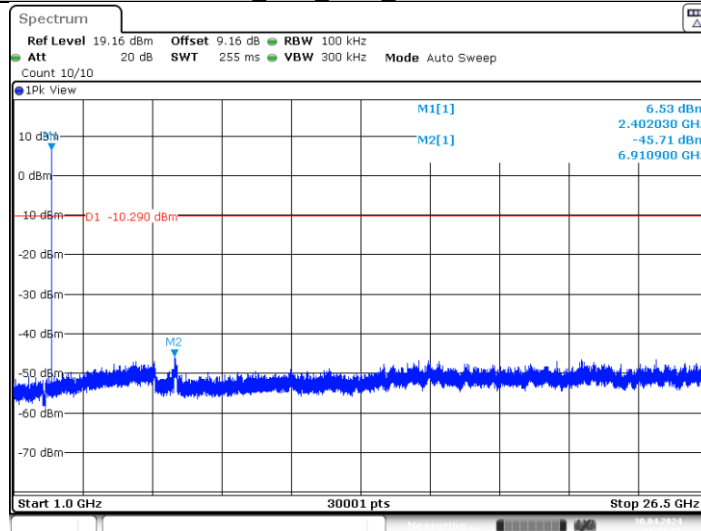
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2DH5_Ant1_2402_30~1000



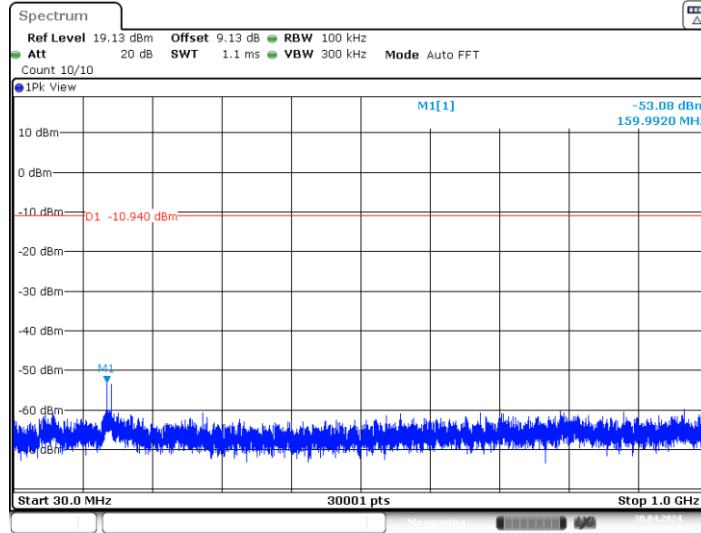
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2DH5_Ant1_2402_1000~26500



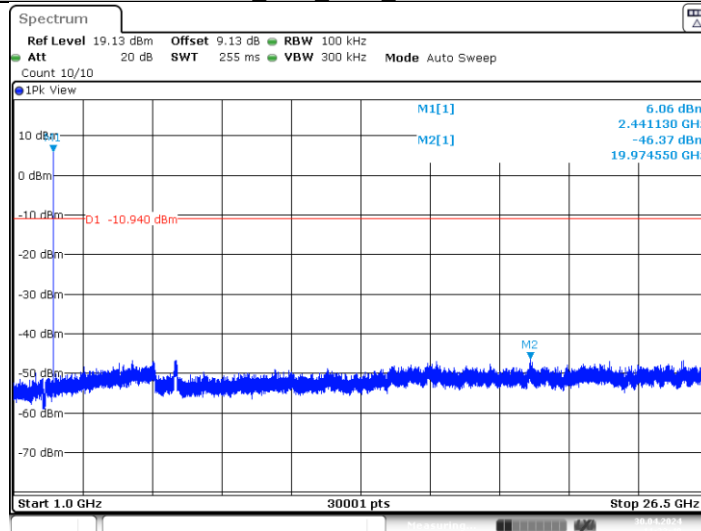
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2DH5_Ant1_2441_30~1000



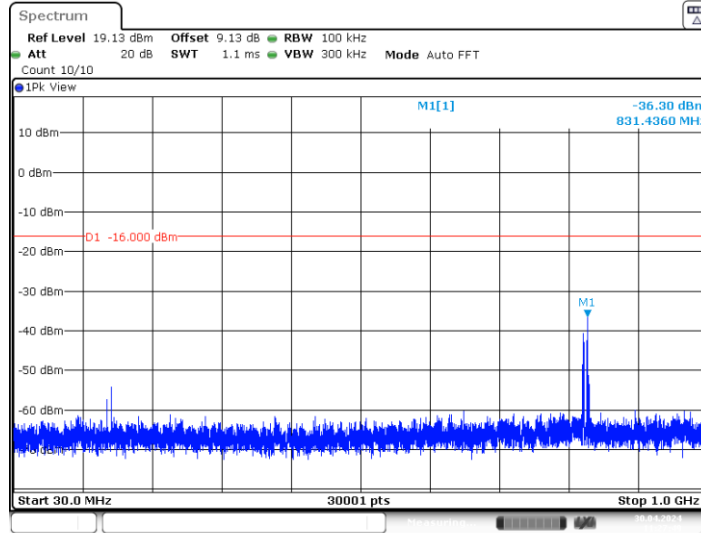
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2DH5_Ant1_2441_1000~26500



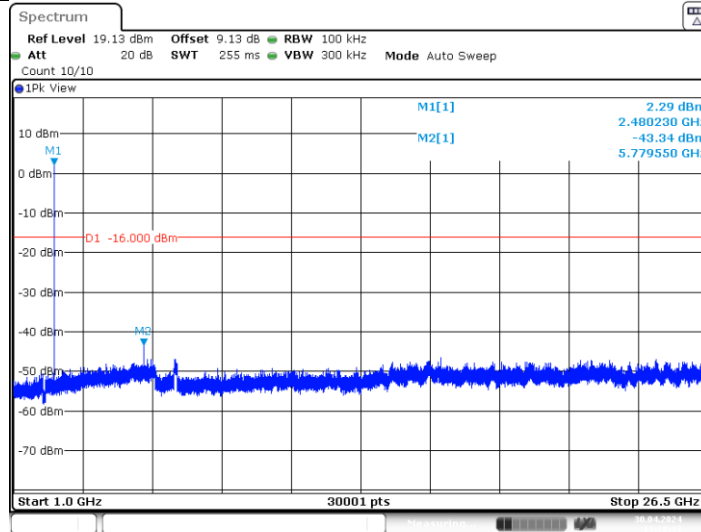
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2DH5_Ant1_2480_30~1000



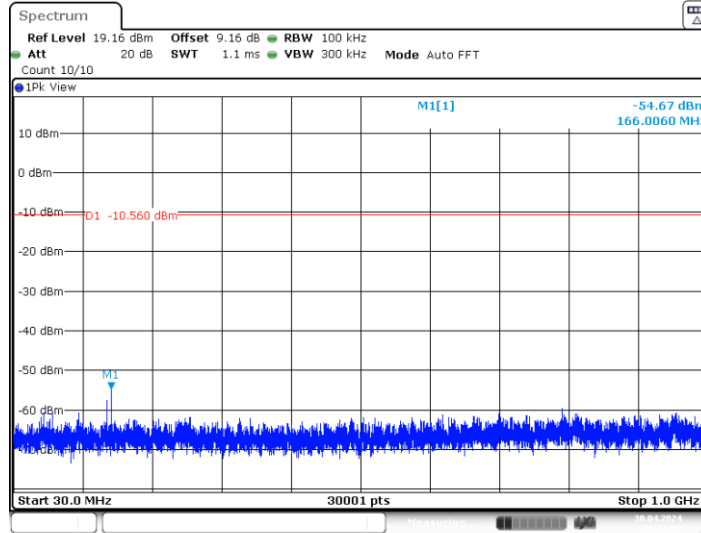
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2DH5 Ant1 2480 1000~26500



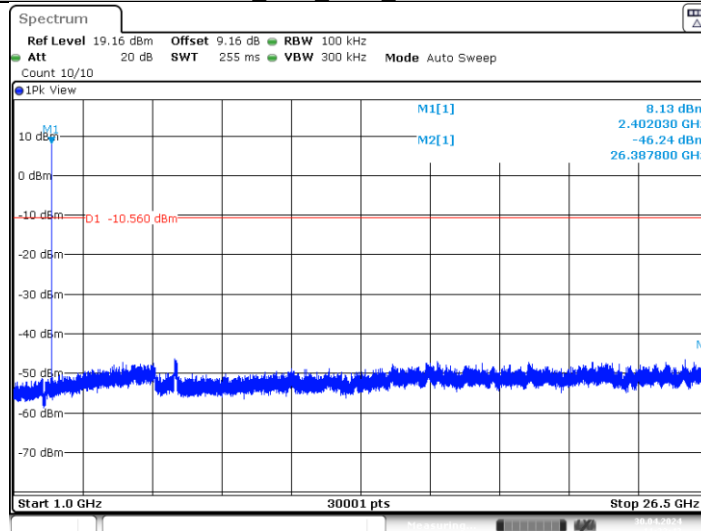
Date: 30.APR.2024 11:28:14

3DH5 Ant1 2402 30~1000



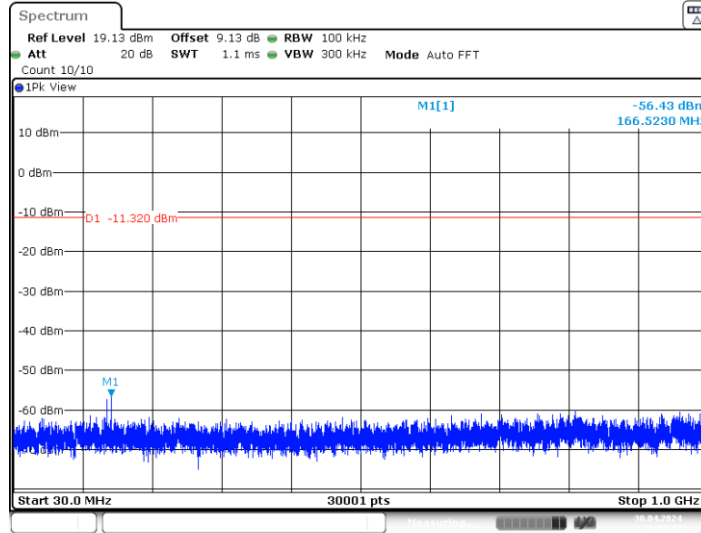
Date: 30.APR.2024 11:32:19

3DH5 Ant1 2402_1000~26500



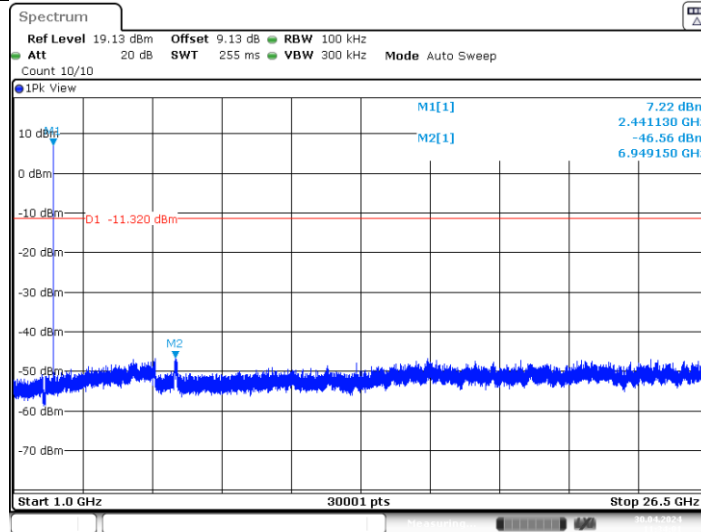
Date: 30.APR.2024 11:32:43

3DH5 Ant1 2441_30~1000



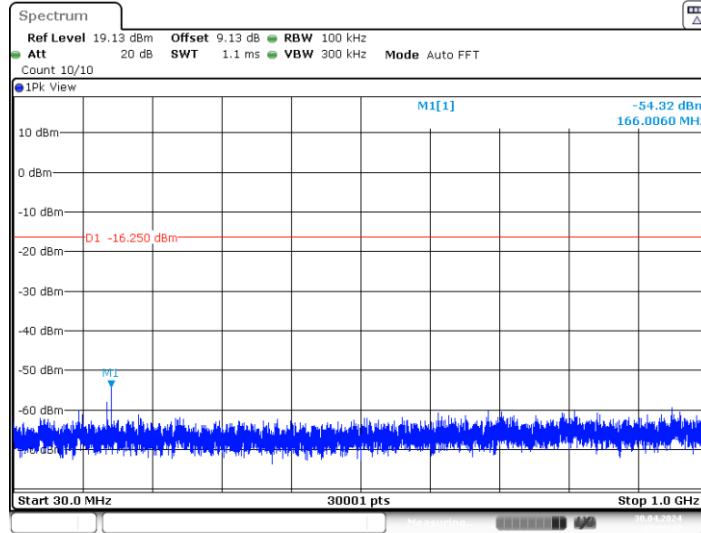
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3DH5 Ant1 2441_1000~26500



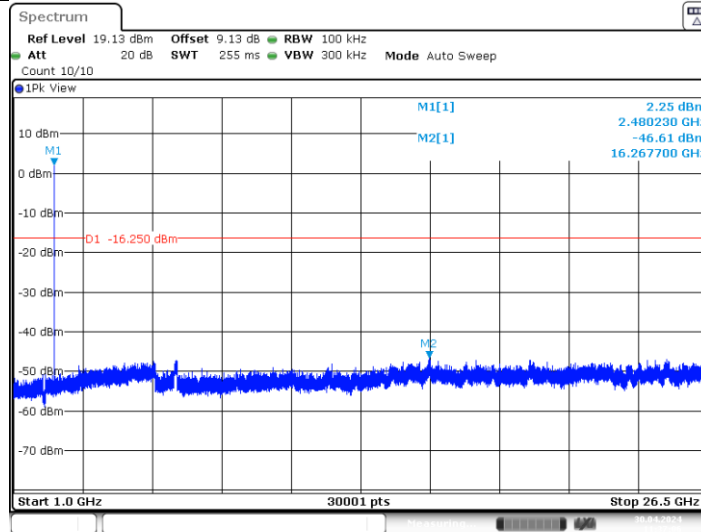
Date: 30.APR.2024 11:34:02

3DH5 Ant1 2480_30~1000



Date: 30.APR.2024 11:36:41

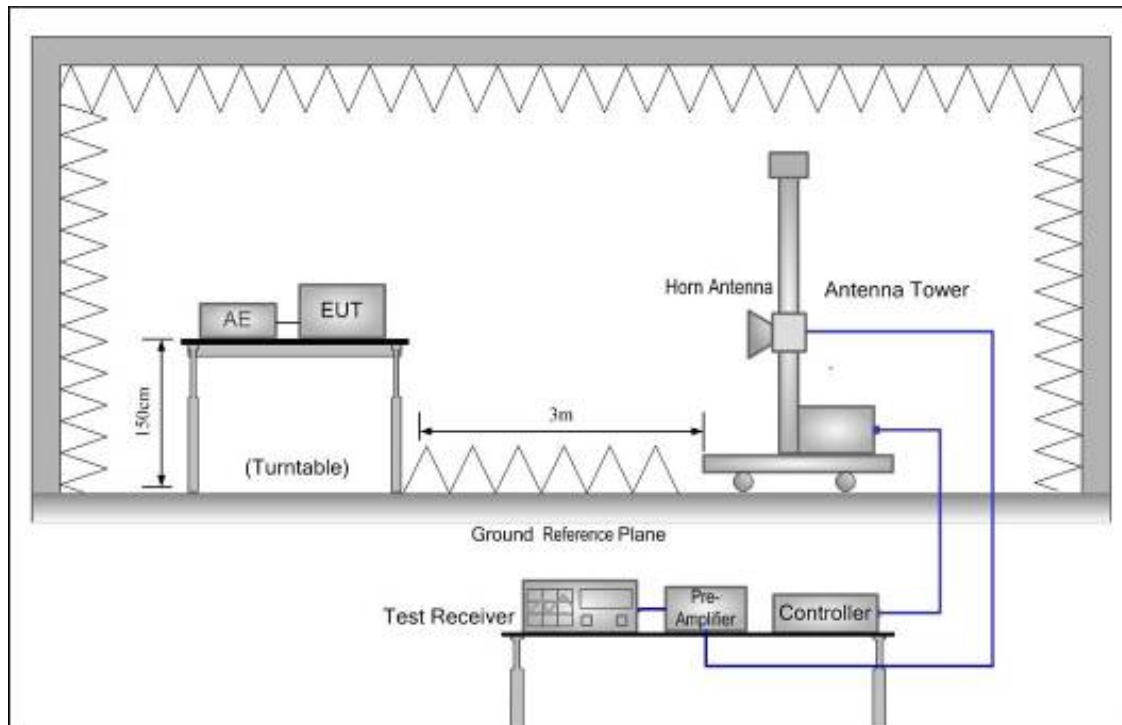
3DH5 Ant1 2480 1000~26500



Date: 30.APR.2024 11:37:06

9. BAND EDGE COMPLIANCE

9.1. Block Diagram of Test Setup



9.2. Limit

All the lower and upper band-edges emissions appearing within restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

9.3. Test Procedure

All restriction band and non- restriction band have been tested , only worse case is reported.

9.4. Test Result

PASS. (See below detailed test data)

Test Results					PASS			
Frequency Range					2310MHz~2410MHz			
Test Mode					GFSK TX 2402MHz			
N o.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	71.25	-21.47	49.78	74.00	-24.22	Peak
2	2390	H	--	-21.47	--	54.00	--	Avg
3	2400	H	71.02	-26.12	44.90	74.00	-29.10	Peak
4	2400	H	--	-26.12	--	54.00	--	Avg
1	2390	V	70.57	-21.47	49.1	74.00	-24.9	Peak
2	2390	V	--	-21.47	--	54.00	--	Avg
3	2400	V	77.18	-26.12	51.06	74.00	-22.94	Peak
4	2400	V	--	-26.12	--	54.00	--	Avg
Test Results					PASS			
Frequency Range					2450MHz~2550MHz			
Test Mode					GFSK TX 2480MHz			
1	2483.5	H	75.05	-25.29	49.76	74.00	-24.24	Peak
2	2483.5	H	--	-25.29	--	54.00	--	Avg
1	2483.5	V	71.96	-25.29	46.67	74.00	-27.33	Peak
2	2483.5	V	--	-25.29	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

Test Results					PASS			
Frequency Range					2310MHz~2410MHz			
Test Mode					$\pi/4$ DQPSK TX 2402MHz			
N o.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	71.56	-21.47	50.09	74.00	-23.91	Peak
2	2390	H	--	-21.47	--	54.00	--	Avg
3	2400	H	70.52	-26.12	44.4	74.00	-29.60	Peak
4	2400	H	--	-26.12	--	54.00	--	Avg
1	2390	V	73.54	-21.47	52.07	74.00	-21.93	Peak
2	2390	V	--	-21.47	--	54.00	--	Avg
3	2400	V	74.02	-26.12	47.90	74.00	-26.10	Peak
4	2400	V	--	-26.12	--	54.00	--	Avg
Test Results					PASS			
Frequency Range					2450MHz~2550MHz			
Test Mode					$\pi/4$ DQPSK TX 2480MHz			
1	2483.5	H	72.85	-25.29	47.56	74	-26.44	Peak
2	2483.5	H	--	-25.29	--	54.00	--	Avg
1	2483.5	V	74.31	-25.29	49.02	74	-24.98	Peak
2	2483.5	V	--	-25.29	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

Test Results					PASS			
Frequency Range					2310MHz~2410MHz			
Test Mode					8DPSK TX 2402MHz			
N o.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	74.23	-21.47	52.76	74.00	-21.24	Peak
2	2390	H	--	-21.47	--	54.00	--	Avg
3	2400	H	72.05	-26.12	45.93	74.00	-28.07	Peak
4	2400	H	--	-26.12	--	54.00	--	Avg
1	2390	V	75.61	-21.47	54.14	74.00	-19.86	Peak
2	2390	V	--	-21.47	--	54.00	--	Avg
3	2400	V	72.52	-26.12	46.4	74.00	-27.05	Peak
4	2400	V	--	-26.12	--	54.00	--	Avg
Test Results					PASS			
Frequency Range					2450MHz~2550MHz			
Test Mode					8DPSK TX 2480MHz			
1	2483.5	H	74.08	-25.29	48.79	74.00	-25.21	Peak
2	2483.5	H	--	-25.29	--	54.00	--	Avg
1	2483.5	V	73.85	-25.29	48.56	74.00	-25.44	Peak
2	2483.5	V	--	-25.29	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

Test Results					PASS			
Frequency Range					2310MHz~2410MHz			
Test Mode					GFSK Hopping			
N o.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	70.25	-21.47	48.78	74.00	-25.22	Peak
2	2390	H	--	-21.47	--	54.00	--	Avg
3	2400	H	71.02	-26.12	44.90	74.00	-29.10	Peak
4	2400	H	--	-26.12	--	54.00	--	Avg
1	2390	V	69.97	-21.47	48.50	74.00	-25.50	Peak
2	2390	V	--	-21.47	--	54.00	--	Avg
3	2400	V	70.28	-26.12	44.16	74.00	-29.84	Peak
4	2400	V	--	-26.12	--	54.00	--	Avg
Test Results					PASS			
Frequency Range					2450MHz~2550MHz			
Test Mode					GFSK Hopping			
1	2483.5	H	74.05	-25.29	48.76	74.00	-25.24	Peak
2	2483.5	H	--	-25.29	--	54.00	--	Avg
1	2483.5	V	72.85	-25.29	47.56	74.00	-26.44	Peak
2	2483.5	V	--	-25.29	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

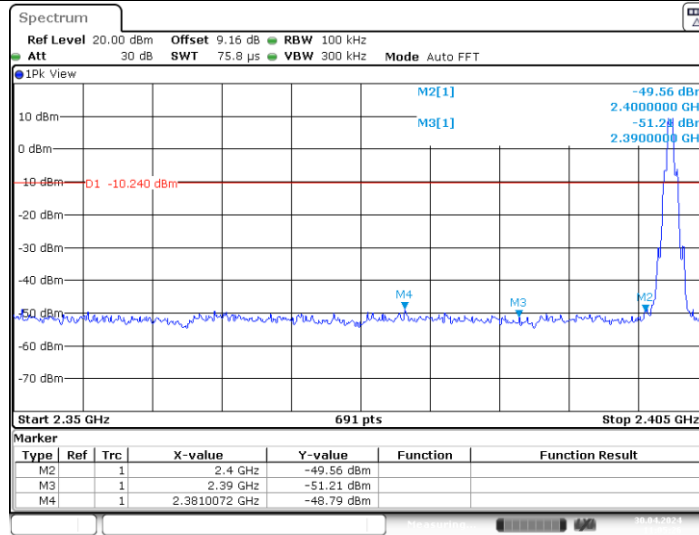
Test Results					PASS			
Frequency Range					2310MHz~2410MHz			
Test Mode					$\pi/4$ DQPSK Hopping			
N o.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	72.63	-21.47	51.16	74.00	-22.84	Peak
2	2390	H	--	-21.47	--	54.00	--	Avg
3	2400	H	71.06	-26.12	44.94	74.00	-29.06	Peak
4	2400	H	--	-26.12	--	54.00	--	Avg
1	2390	V	73.05	-21.47	51.58	74.00	-22.42	Peak
2	2390	V	--	-21.47	--	54.00	--	Avg
3	2400	V	71.07	-26.12	44.95	74.00	-29.05	Peak
4	2400	V	--	-26.12	--	54.00	--	Avg
Test Results					PASS			
Frequency Range					2450MHz~2550MHz			
Test Mode					$\pi/4$ DQPSK Hopping			
1	2483.5	H	70.13	-25.29	44.84	74.00	-29.16	Peak
2	2483.5	H	--	-25.29	--	54.00	--	Avg
1	2483.5	V	69.85	-25.29	44.56	74.00	-29.44	Peak
2	2483.5	V	--	-25.29	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

Test Results					PASS			
Frequency Range					2310MHz~2410MHz			
Test Mode					8DPSK Hopping			
N o.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	72.85	-21.47	51.38	74.00	-22.62	Peak
2	2390	H	--	-21.47	--	54.00	--	Avg
3	2400	H	71.18	-26.12	45.06	74.00	-28.94	Peak
4	2400	H	--	-26.12	--	54.00	--	Avg
1	2390	V	73.01	-21.47	51.54	74.00	-22.46	Peak
2	2390	V	--	-21.47	--	54.00	--	Avg
3	2400	V	70.13	-26.12	44.01	74.00	-29.99	Peak
4	2400	V	--	-26.12	--	54.00	--	Avg
Test Results					PASS			
Frequency Range					2450MHz~2550MHz			
Test Mode					8DPSK Hopping			
1	2483.5	H	70.18	-25.29	44.89	74.00	-29.11	Peak
2	2483.5	H	--	-25.29	--	54.00	--	Avg
1	2483.5	V	72.74	-25.29	47.45	74.00	-26.55	Peak
2	2483.5	V	--	-25.29	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

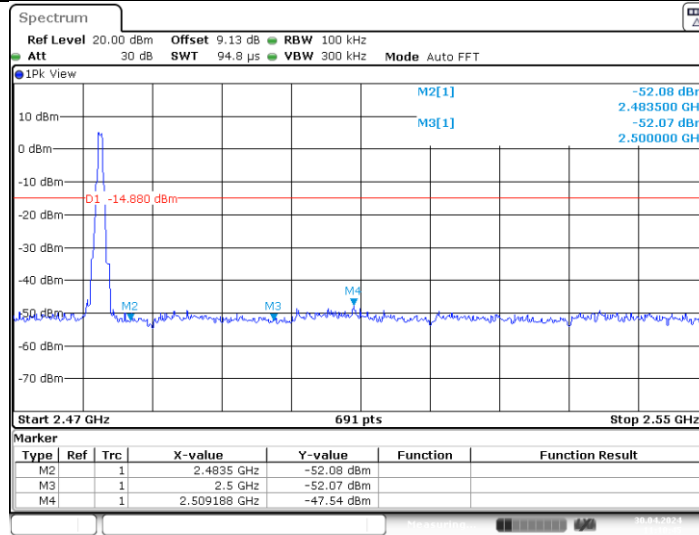
Conducted Method

TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	9.76	-48.79	≤-10.24	PASS
		High	2480	5.12	-47.54	≤-14.88	PASS
		Low	Hop_2402	10.00	-48.29	≤-10	PASS
		High	Hop_2480	9.99	-48.88	≤-10.01	PASS
2DH5	Ant1	Low	2402	9.71	-48.89	≤-10.29	PASS
		High	2480	4.00	-48.62	≤-16	PASS
		Low	Hop_2402	7.31	-48.52	≤-12.69	PASS
		High	Hop_2480	6.71	-48.33	≤-13.29	PASS
3DH5	Ant1	Low	2402	9.44	-49.43	≤-10.56	PASS
		High	2480	3.75	-48.23	≤-16.25	PASS
		Low	Hop_2402	7.65	-49.15	≤-12.35	PASS
		High	Hop_2480	6.69	-49.12	≤-13.31	PASS

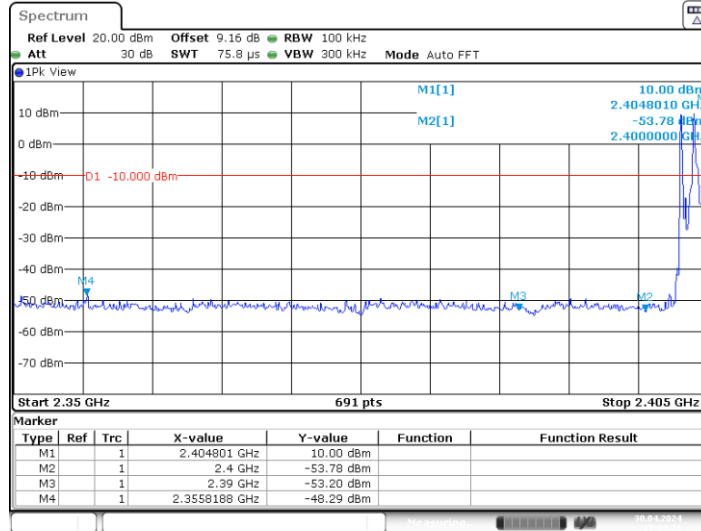
DH5_Ant1_Low_2402



DH5_Ant1_High_2480

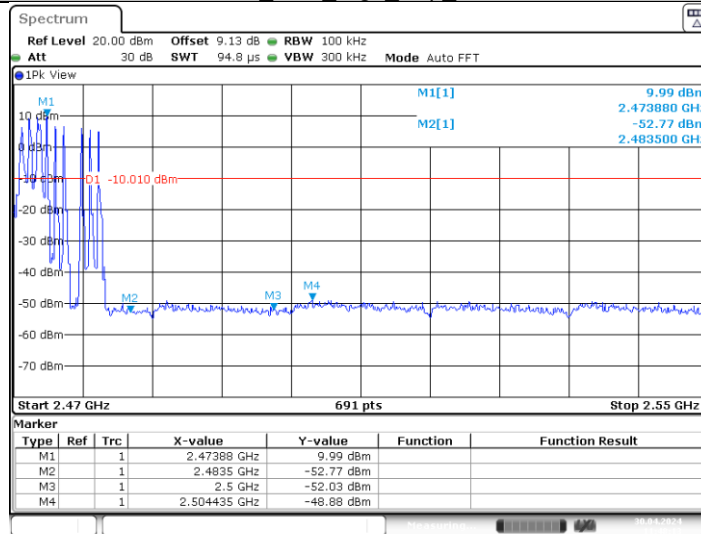


DH5_Ant1_Low_Hop_2402



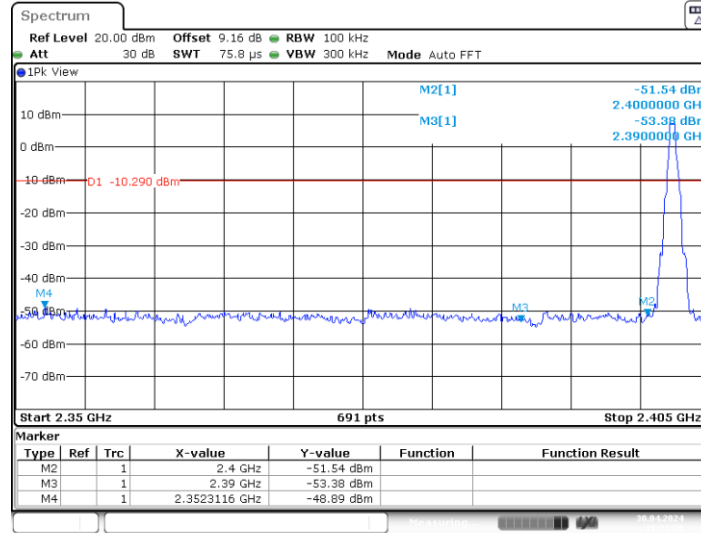
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DH5_Ant1_High_Hop_2480



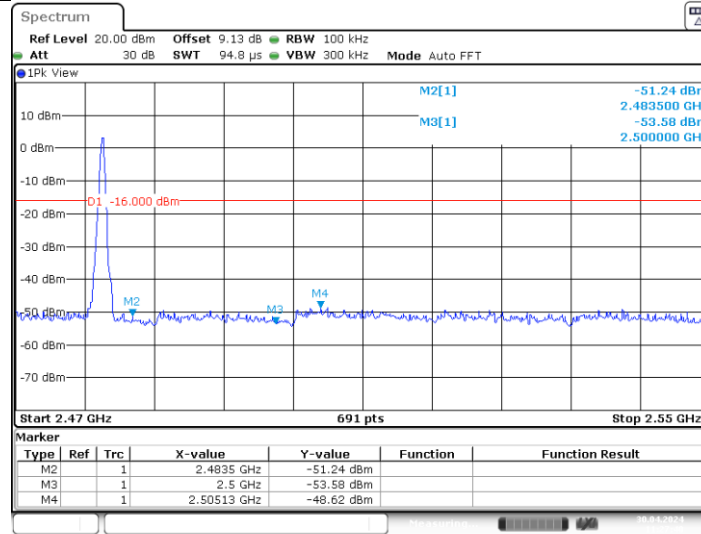
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2DH5_Ant1_Low_2402



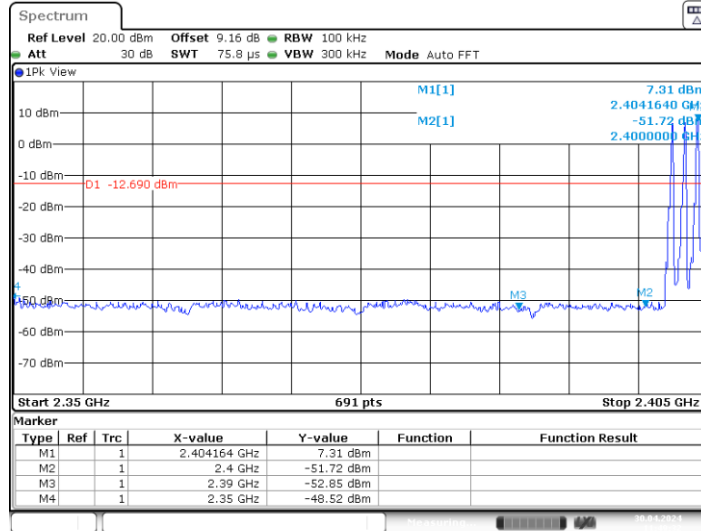
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2DH5_Ant1_High_2480



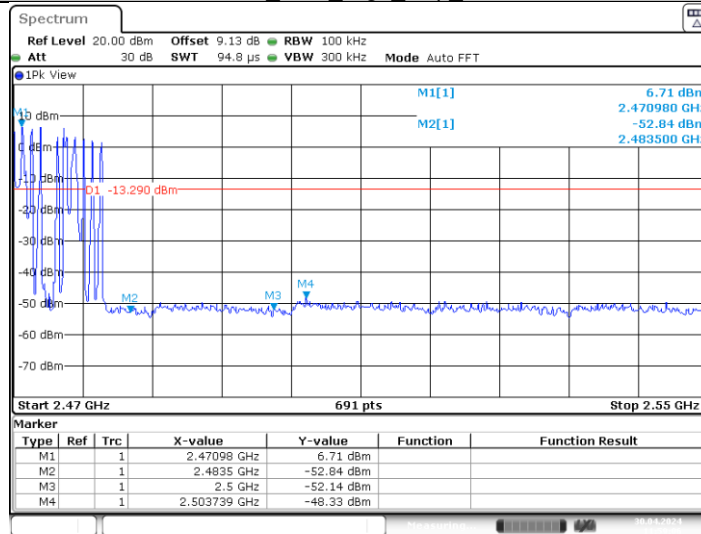
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2DH5_Ant1_Low_Hop_2402



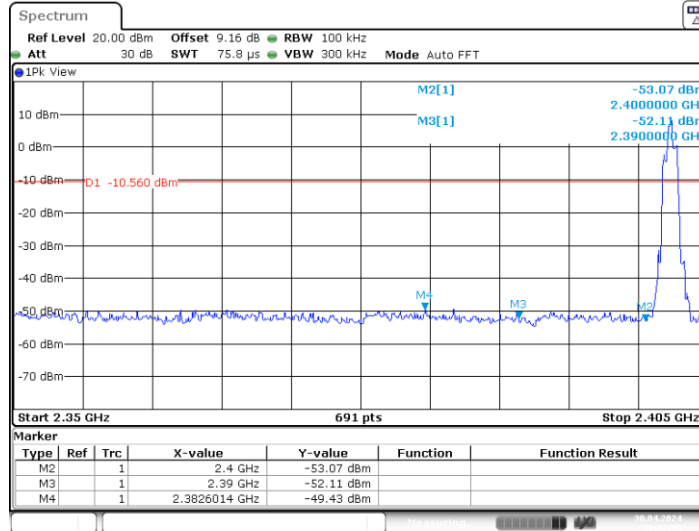
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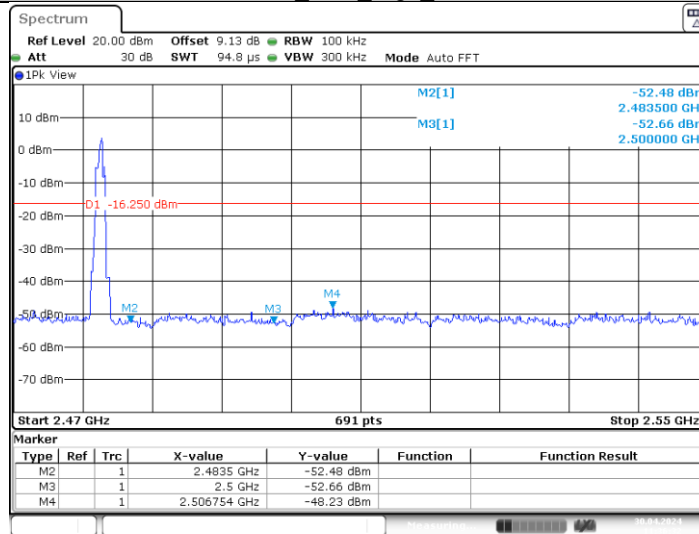
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3DH5_Ant1_Low_2402



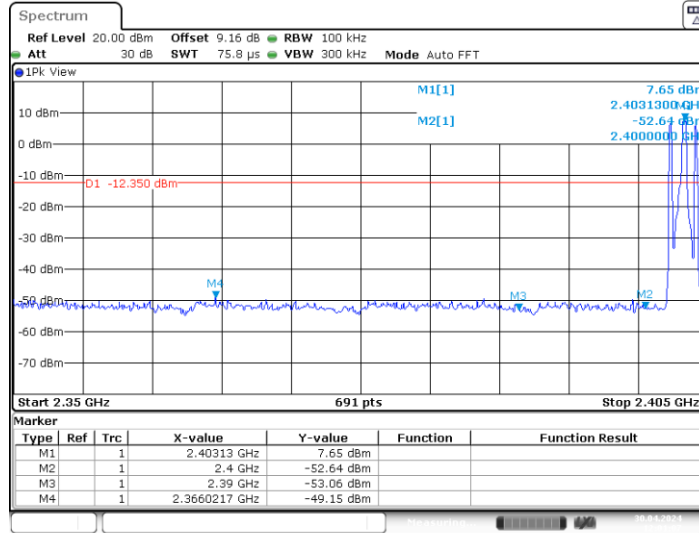
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3DH5_Ant1_High_2480



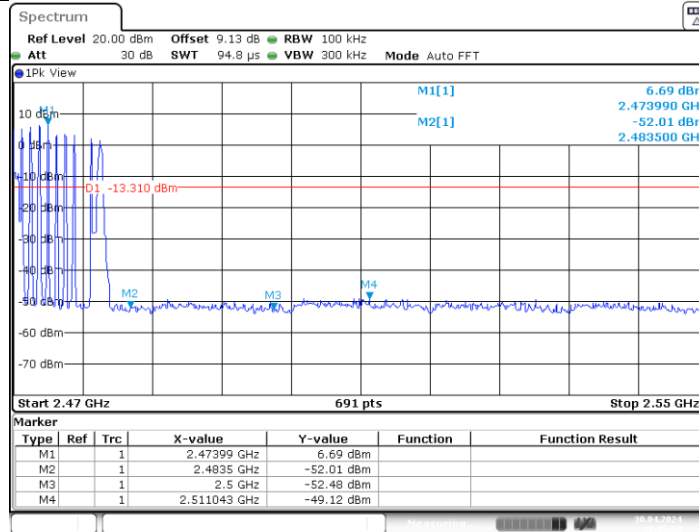
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3DH5_Ant1_Low_Hop_2402



Date: 30.APR.2024 12:01:08

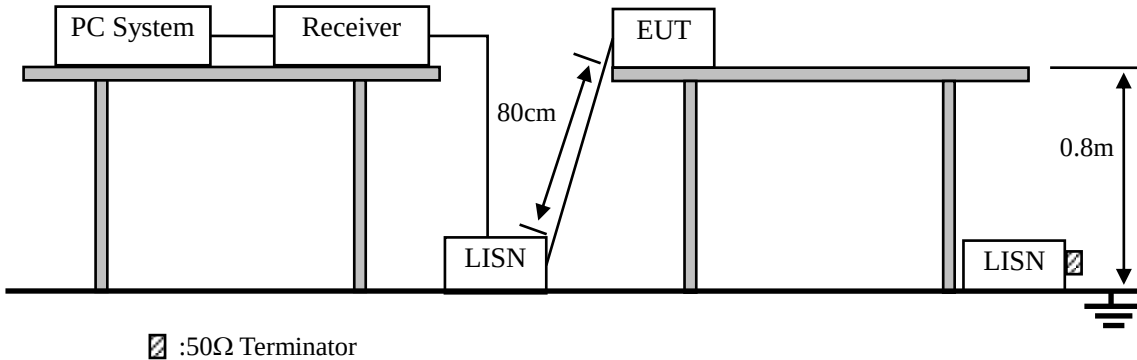
3DH5_Ant1_High_Hop_2480



Date: 30.APR.2024 12:05:58

10. POWER LINE CONDUCTED EMISSIONS

10.1. Block Diagram of Test Setup



10.2. Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

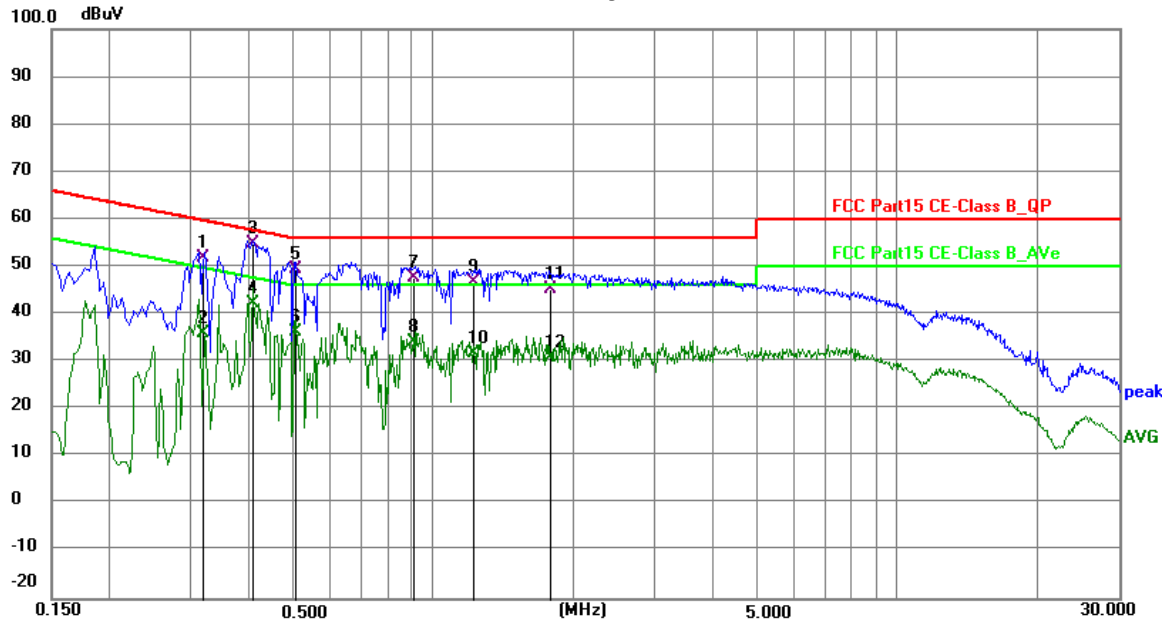
Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

10.3. Test Procedure

- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
- (2) Setup the EUT and simulator as shown in 10.1
- (3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013 on conducted Emission test.
- (4) The bandwidth of test receiver is set at 10KHz.
- (5) The frequency range from 150 KHz to 30MHz is checked.

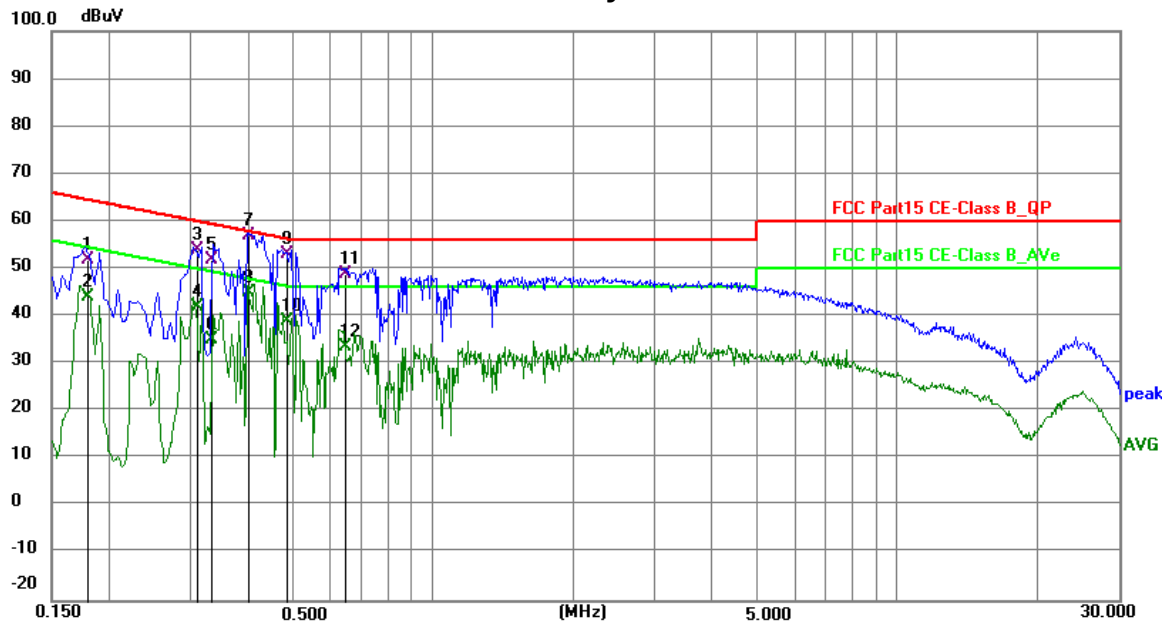
10.4.Test Result : PASS

Polarity: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.3198	42.36	9.63	51.99	59.71	-7.72	QP	P	
2	0.3198	26.24	9.63	35.87	49.71	-13.84	AVG	P	
3 *	0.4079	45.10	9.63	54.73	57.69	-2.96	QP	P	
4	0.4079	32.67	9.63	42.30	47.69	-5.39	AVG	P	
5	0.5045	39.70	9.62	49.32	56.00	-6.68	QP	P	
6	0.5045	26.65	9.62	36.27	46.00	-9.73	AVG	P	
7	0.9087	38.14	9.64	47.78	56.00	-8.22	QP	P	
8	0.9087	24.55	9.64	34.19	46.00	-11.81	AVG	P	
9	1.2250	37.23	9.64	46.87	56.00	-9.13	QP	P	
10	1.2250	22.25	9.64	31.89	46.00	-14.11	AVG	P	
11	1.7894	35.75	9.65	45.40	56.00	-10.60	QP	P	
12	1.7894	21.19	9.65	30.84	46.00	-15.16	AVG	P	

Polarity: N



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1806	42.30	9.63	51.93	64.46	-12.53	QP	P	
2	0.1806	34.29	9.63	43.92	54.46	-10.54	AVG	P	
3	0.3101	44.25	9.62	53.87	59.97	-6.10	QP	P	
4	0.3101	32.47	9.62	42.09	49.97	-7.88	AVG	P	
5	0.3342	42.19	9.62	51.81	59.35	-7.54	QP	P	
6	0.3342	25.32	9.62	34.94	49.35	-14.41	AVG	P	
7 *	0.4004	47.37	9.62	56.99	57.85	-0.86	QP	P	
8	0.4004	35.21	9.62	44.83	47.85	-3.02	AVG	P	
9	0.4860	43.54	9.62	53.16	56.24	-3.08	QP	P	
10	0.4860	29.40	9.62	39.02	46.24	-7.22	AVG	P	
11	0.6450	39.34	9.62	48.96	56.00	-7.04	QP	P	
12	0.6450	23.84	9.62	33.46	46.00	-12.54	AVG	P	

11. ANTENNA REQUIREMENTS

11.1.Limit

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2.Result

The EUT antenna is PIFA Antenna. It comply with the standard requirement.

12. TEST SETUP PHOTO

12.1. Photo of Radiated Emission test



12.2.Photo of Conducted Emission test

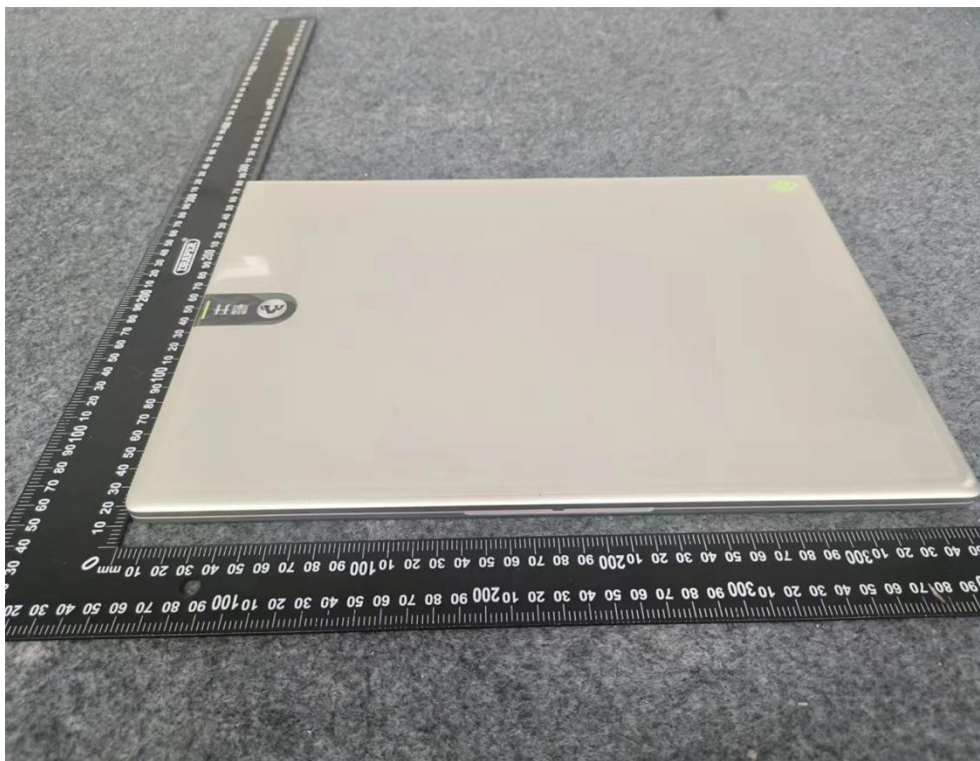


12.3.Conducted Test Photos

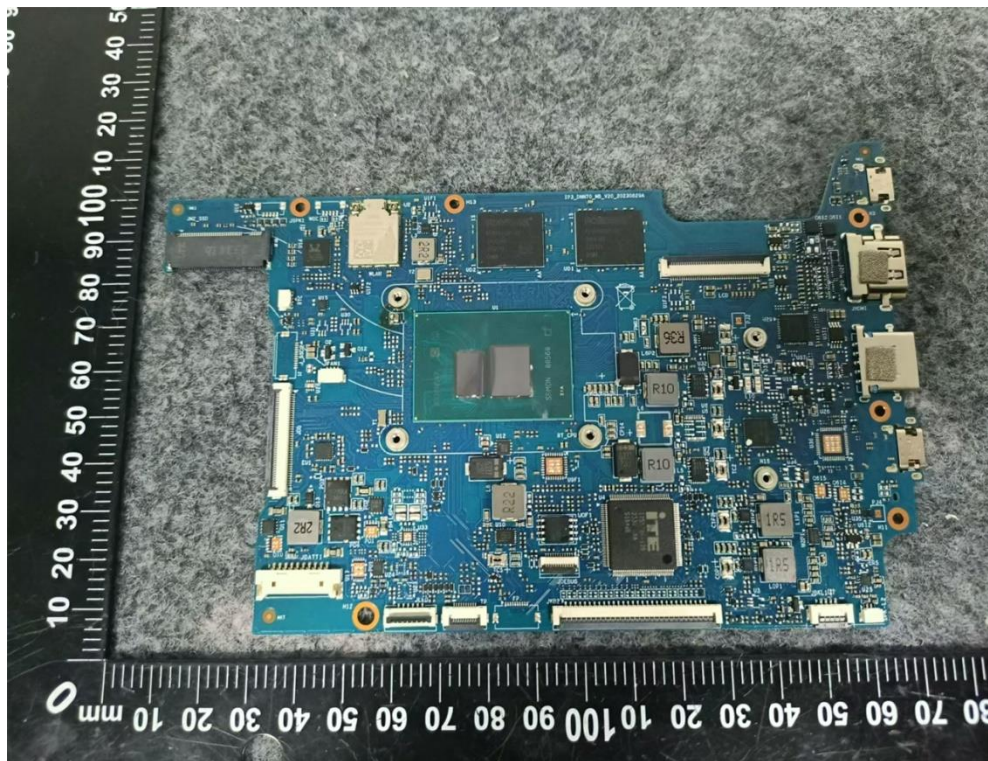


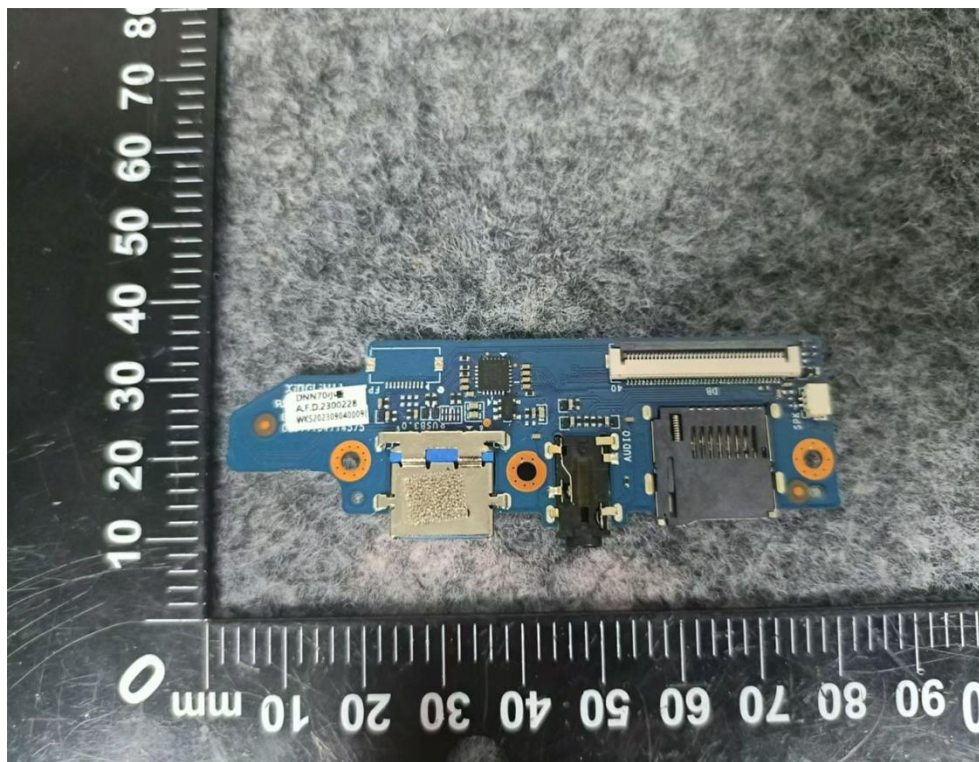
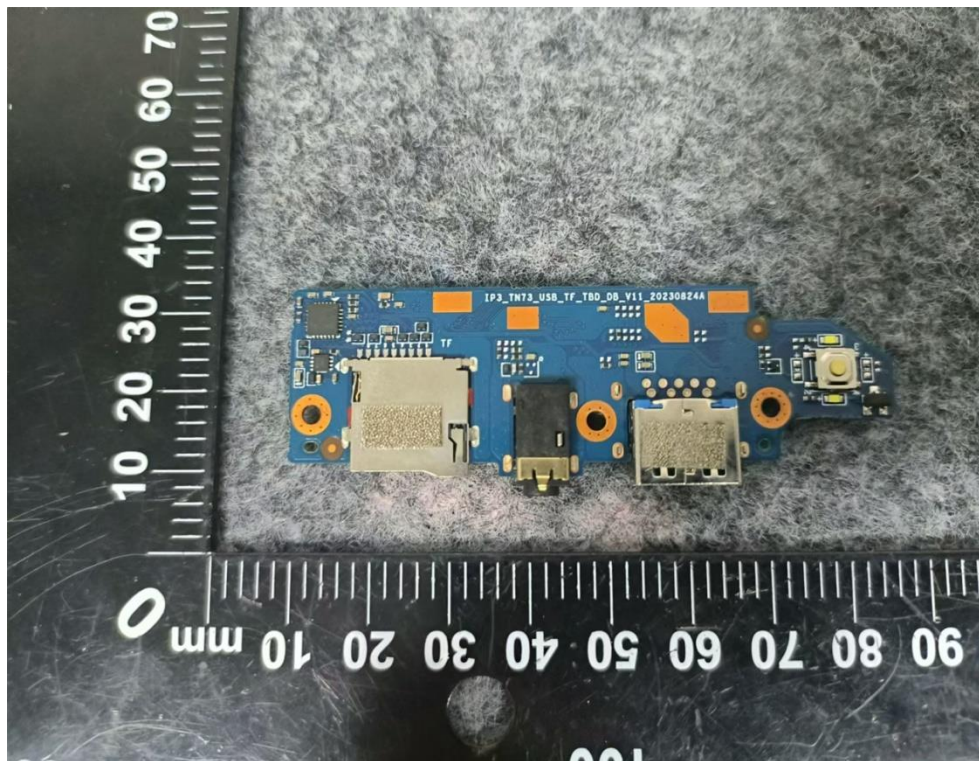
13. PHOTOS OF EUT















-----END OF REPORT-----