

Test Results

TEST RESULTS	1
1. MEASUREMENT EQUIPMENT LIST.....	2
2. 20dB EMISSION BANDWIDTH OF BR & EDR.....	3
3. OCCUPIED CHANNEL BANDWIDTH OF BR & EDR	7
4. MAXIMUM CONDUCTED OUTPUT POWER OF BR & EDR	10
5. CARRIER FREQUENCY SEPARATION OF BR & EDR	14
6. TIME OF OCCUPANCY OF BR & EDR.....	15
7. NUMBER OF HOPPING CHANNELS OF BR & EDR.....	18
8. BAND EDGE MEASUREMENTS OF BR & EDR	19
9. CONDUCTED SPURIOUS EMISSION OF BR & EDR	24
10. DTS BANDWIDTH OF BLE.....	34
11. OCCUPIED CHANNEL BANDWIDTH OF BLE	36
12. MAXIMUM CONDUCTED OUTPUT POWER OF BLE	39
13. MAXIMUM POWER SPECTRAL DENSITY OF BLE	41
14. BAND EDGE MEASUREMENTS OF BLE	44
15. CONDUCTED SPURIOUS EMISSION OF BLE	45
16. TEST RESULTS OF RADIATED SPURIOUS EMISSIONS	50
BLE mode	50
BR mode.....	86
EDR mode	122
17. TEST RESULTS OF CONDUCTED EMISSION ON AC MAINS.....	158

1. Measurement Equipment List

Test Equipment	Model	Manufacturer	Serial No.	Cal Until
Radio Spectrum Test				
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY60241175	25.09.2025
MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY61250137	25.09.2025
EXG X-Series Microwave Analog Signal Generator	Keysight	N5173B	MY61250141	25.09.2025
DC Power Supply	Keysight	E3642A	MY61276100	25.09.2025
Wireless Connectivity Tester	R&S	CMW270	102505	25.09.2025
Power Control Unit	Tonscend	JS0806-4ADC	N/A	25.09.2025
Automation Control Unit	Tonscend	JS0806-2	21C8060396	25.09.2025
Test Software	Tonscend	JS1120-3	N/A	N/A
Control PC	Lenovo	TianYi510S-071MB	YLX23JMF	N/A
Disturbance Voltage				
EMI Test Receiver	R&S	ESR3	102428	22.07. 2026
Artificial Mains Network	R&S	ENV432	101546	22.07. 2026
EMC32 test software	R&S	EMC32(Ver.10.50.00)	N/A	N/A
Spurious Emission (25MHz~26.5GHz)				
EMI Test Receiver	R&S	ESR 7	102021	28.09.2025
Signal Analyzer	R&S	FSV 40	101439	28.09.2025
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	28.09.2025
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	28.09.2025
Amplifier	R&S	SCU-18F	180070	28.09.2025
Amplifier	R&S	SCU40A	100475	28.09.2025
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	27.09.2026
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	27.09.2026
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	27.09.2026
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	27.09.2026
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	13.09.2027

2. 20dB Emission Bandwidth of BR & EDR

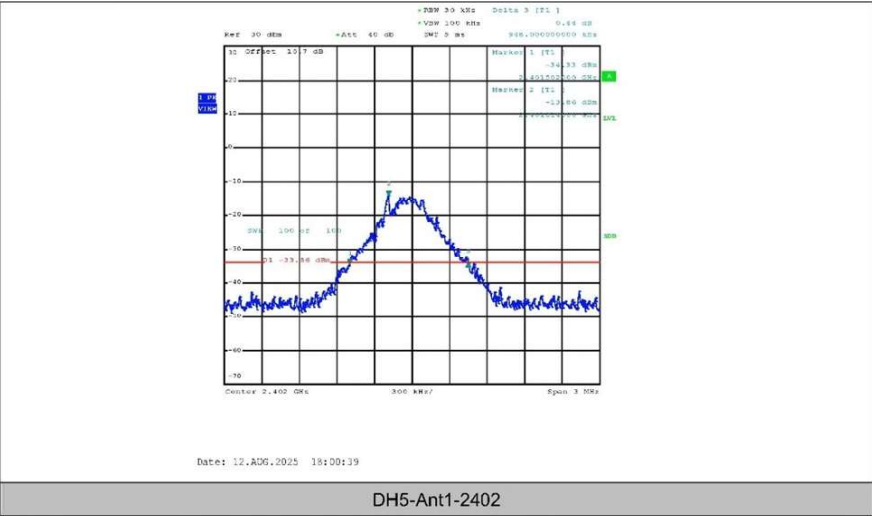
Case No. : 170423584	
Ambient Condition: 25 °C, 50 %RH,	
EUT : ES-1203	
Standard : FCC Part 15	
Remark : BR,EDR	
Tested By: Jason Wu	Reviewed By: Jacky Chen
20250812	20250818

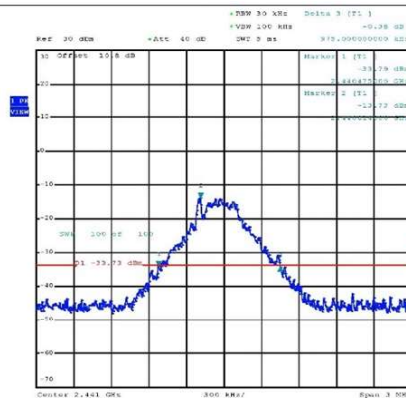
Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.95	2401.50	2402.45	---	---
DH5	Ant1	2441	0.97	2440.48	2441.45	---	---
DH5	Ant1	2480	0.97	2479.47	2480.45	---	---
3DH5	Ant1	2402	1.31	2401.32	2402.62	---	---
3DH5	Ant1	2441	1.32	2440.31	2441.63	---	---
3DH5	Ant1	2480	1.31	2479.31	2480.62	---	---

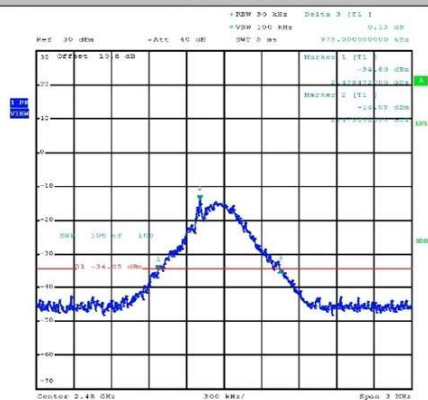
Test Graphs





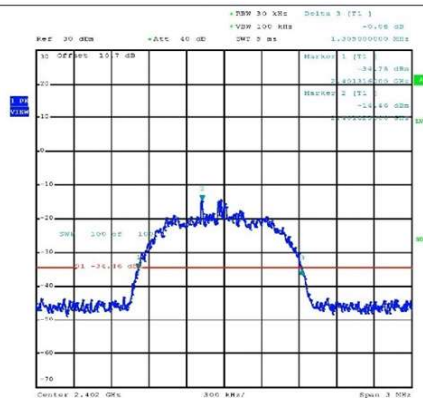
Date: 12.AUG.2025 18:06:50

DH5-Ant1-2441



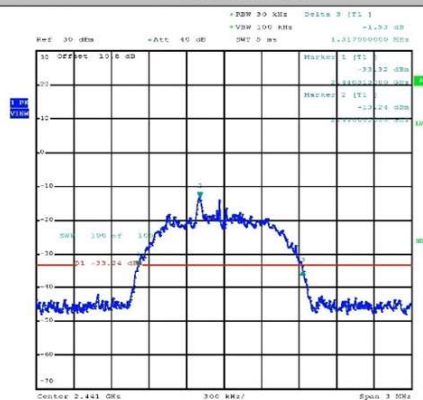
Date: 12.AUG.2025 18:07:53

DH5-Ant1-2480



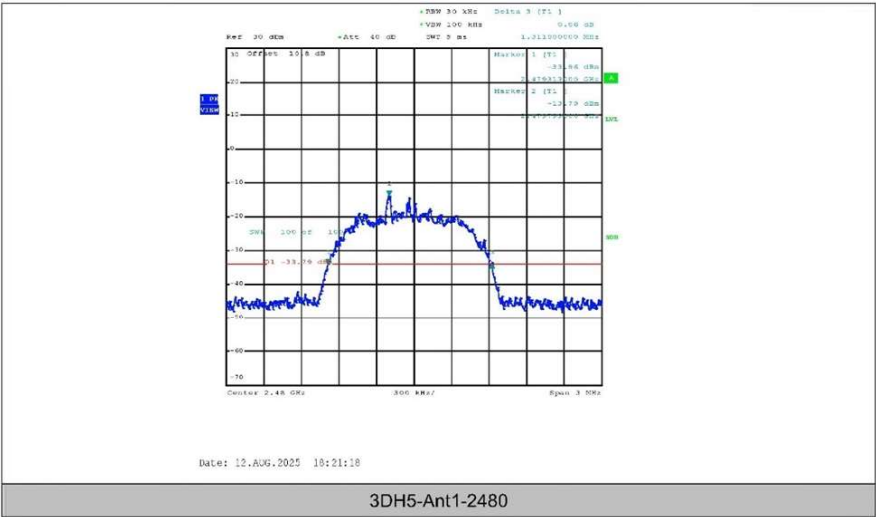
Date: 12.AUG.2025 18:13:35

3DH5-Ant1-2402



Date: 12.AUG.2025 18:17:42

3DH5-Ant1-2441



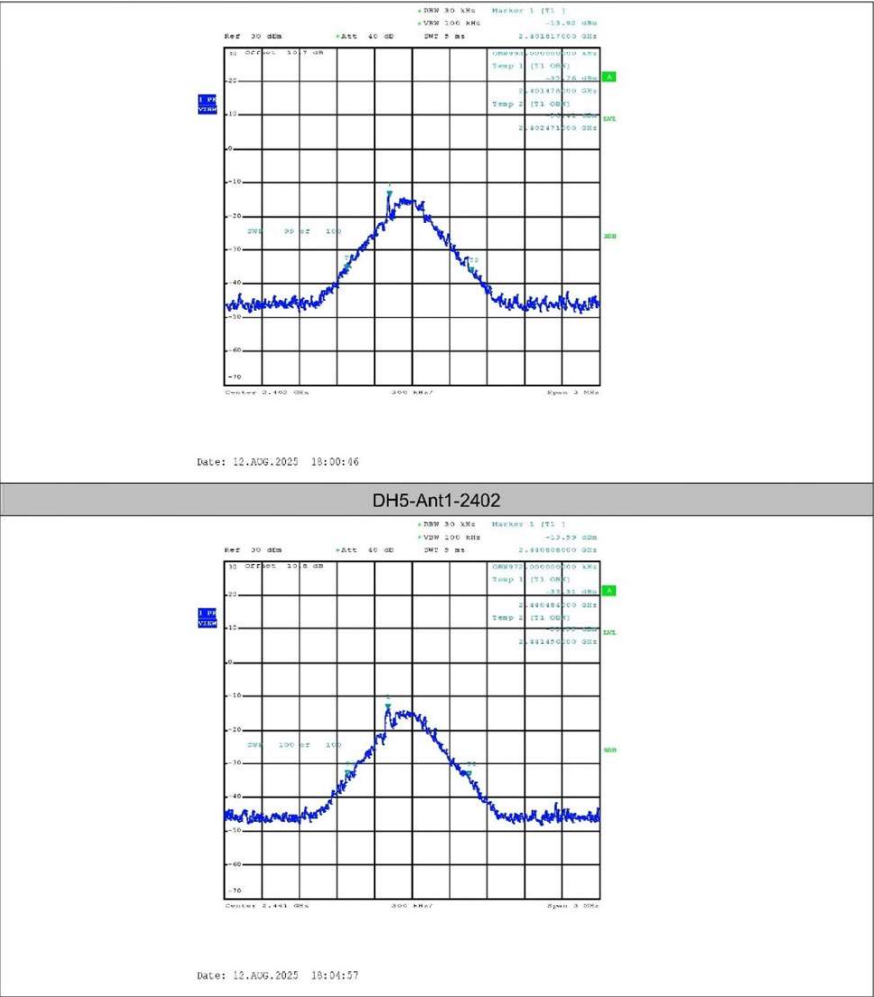
3. Occupied Channel Bandwidth of BR & EDR

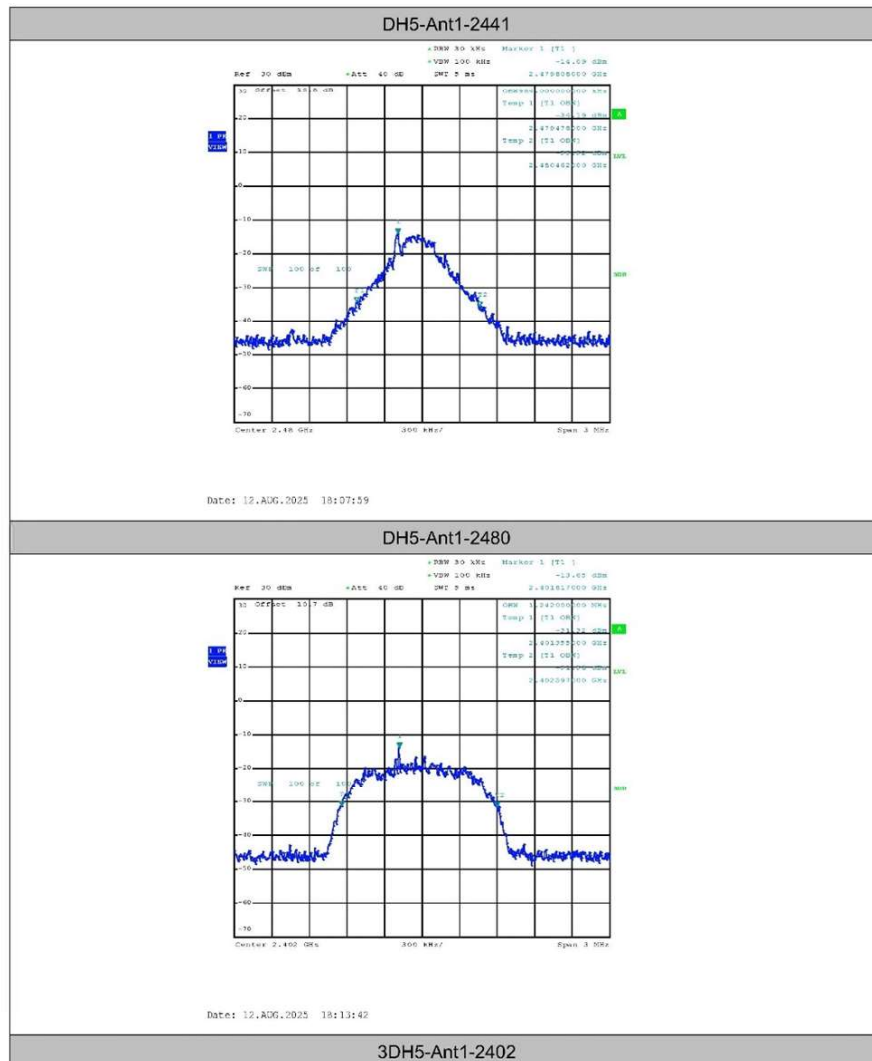
Appendix B: Occupied Channel Bandwidth

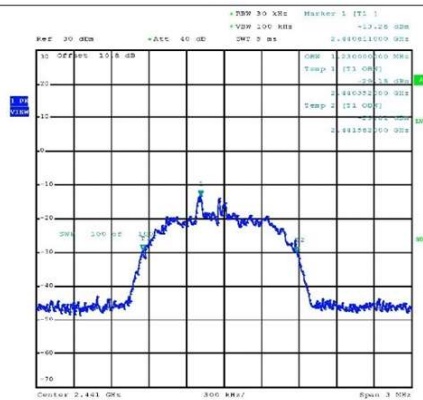
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.993	2401.4780	2402.4710	---	---
DH5	Ant1	2441	0.972	2440.4840	2441.4560	---	---
DH5	Ant1	2480	0.984	2479.4780	2480.4620	---	---
3DH5	Ant1	2402	1.242	2401.3550	2402.5970	---	---
3DH5	Ant1	2441	1.23	2440.3520	2441.5820	---	---
3DH5	Ant1	2480	1.245	2479.3460	2480.5910	---	---

Test Graphs

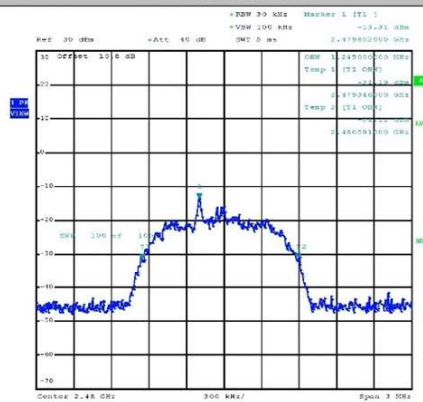






Date: 12.AUG.2025 18:17:49

3DH5-Ant1-2441



Date: 12.AUG.2025 18:21:24

3DH5-Ant1-2480

4. Maximum conducted output power of BR & EDR

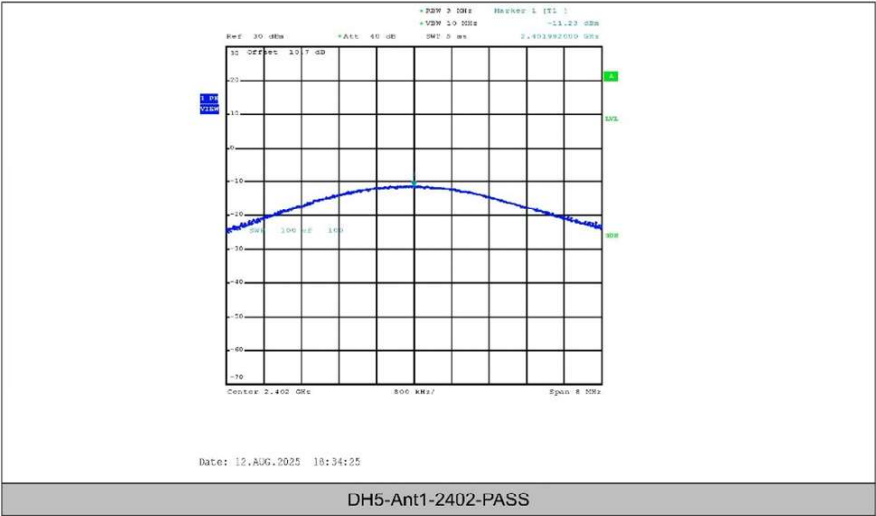
Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-11.23	≤30	PASS
DH5	Ant1	2441	-11.14	≤30	PASS
DH5	Ant1	2480	-11.45	≤30	PASS
3DH5	Ant1	2402	-11.39	≤20.97	PASS
3DH5	Ant1	2441	-8.73	≤20.97	PASS
3DH5	Ant1	2480	-9.07	≤20.97	PASS

Test Result Average

Test Graphs





Date: 12.AUG.2025 18:35:11

DH5-Ant1-2441-PASS



Date: 12.AUG.2025 18:37:25

DH5-Ant1-2480-PASS



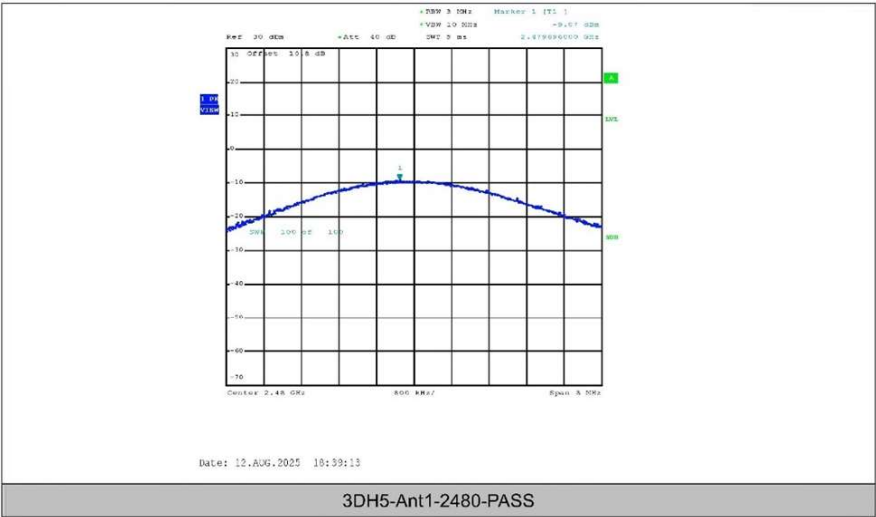
Date: 12.AUG.2025 18:37:53

3DH5-Ant1-2402-PASS



Date: 12.AUG.2025 18:39:51

3DH5-Ant1-2441-PASS



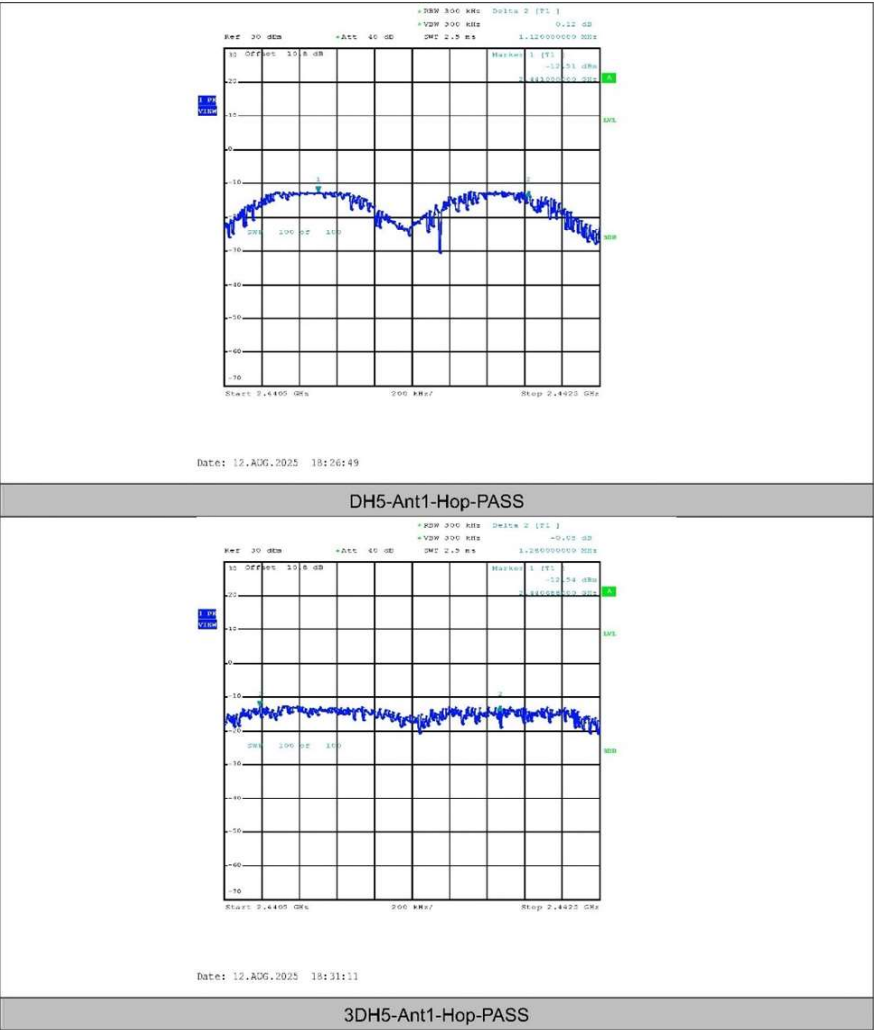
5. Carrier frequency separation of BR & EDR

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.12	≥0.970	PASS
3DH5	Ant1	Hop	1.28	≥1.230	PASS

Test Graphs



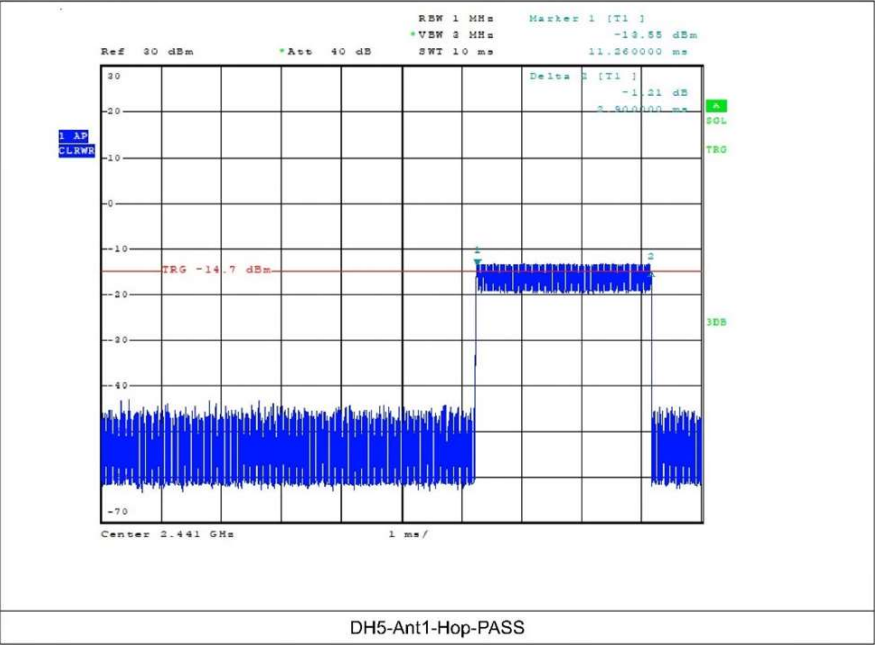
6. Time of occupancy of BR & EDR

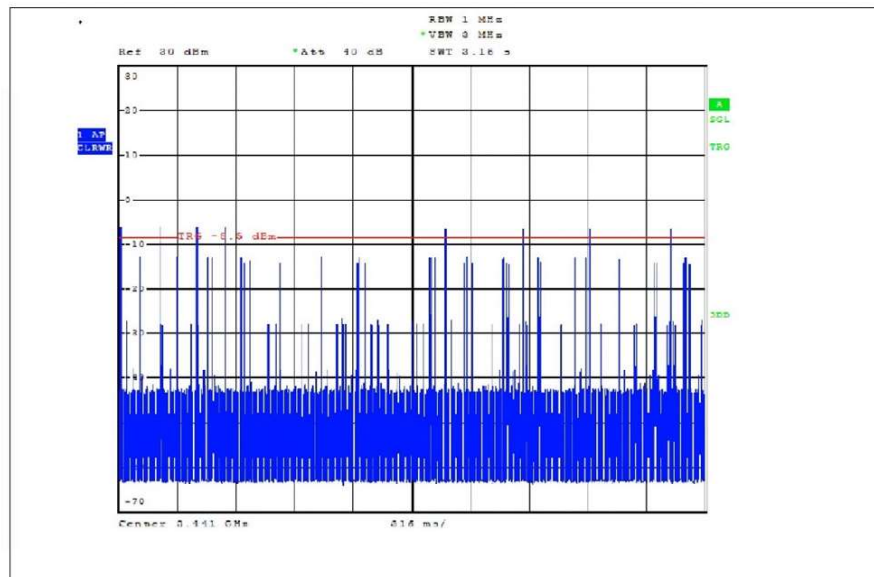
Appendix E: Time of occupancy

Test Result

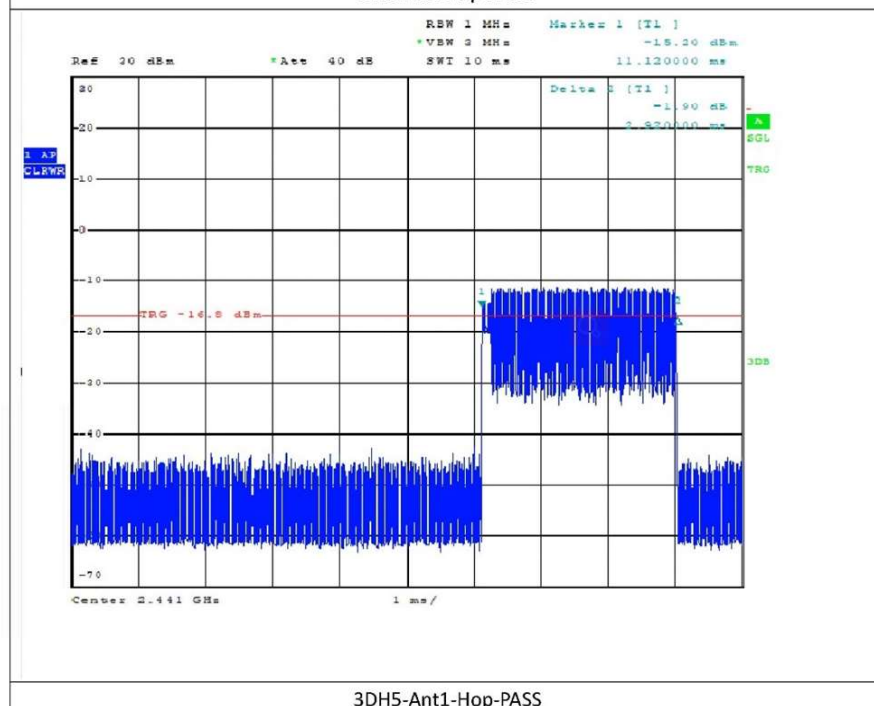
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.90	90	0.261	≤0.4	PASS
3DH5	Ant1	Hop	2.92	110	0.3212	≤0.4	PASS

Test Graphs

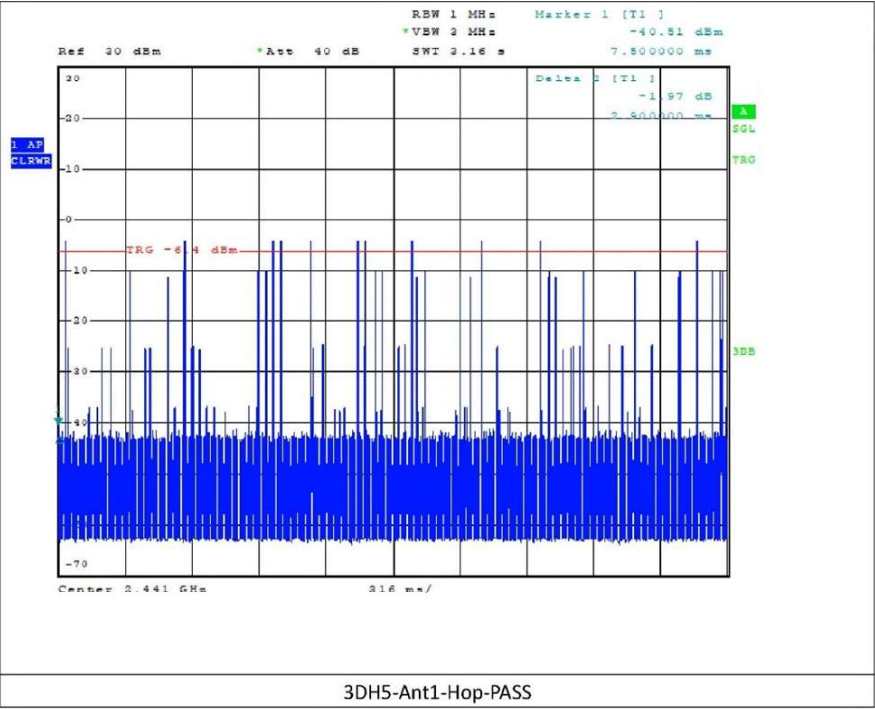




DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



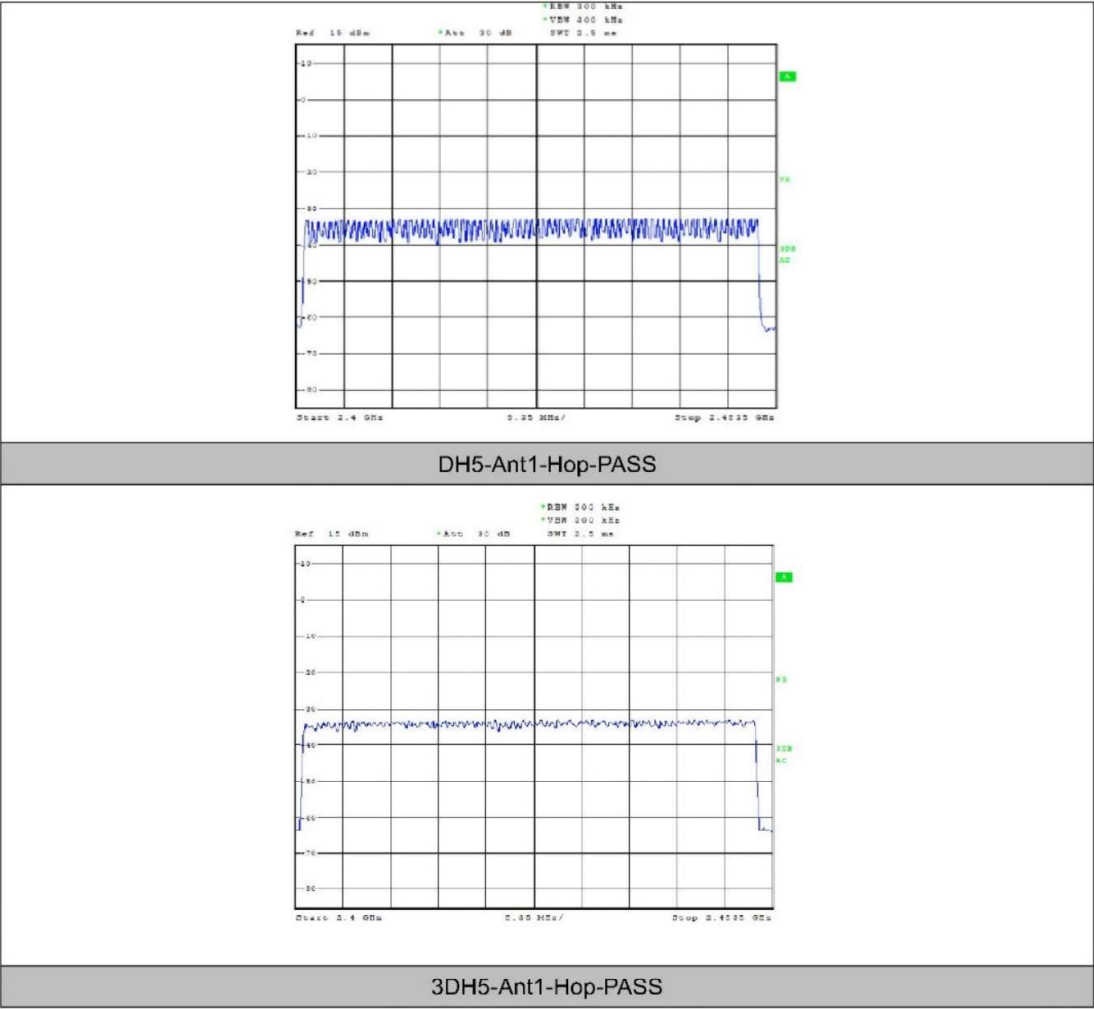
7. Number of hopping channels of BR & EDR

Appendix F: Number of hopping channels

Test Result

TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs



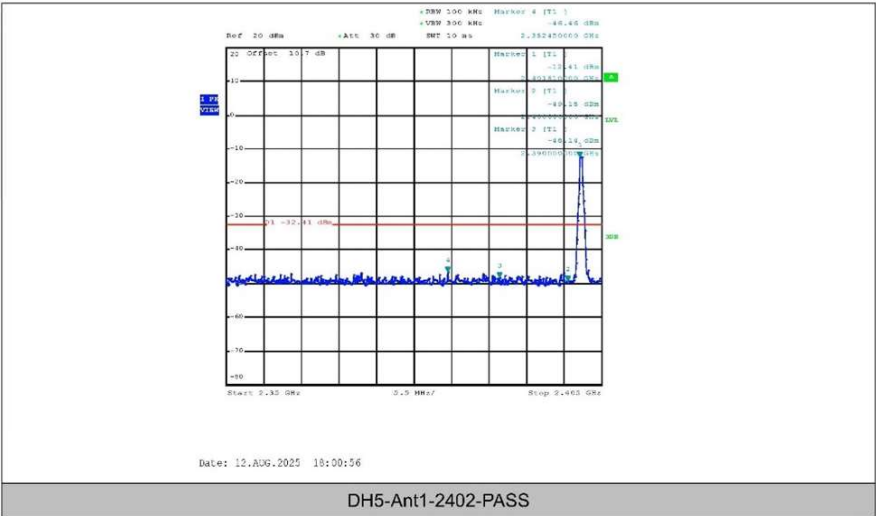
8. Band edge measurements of BR & EDR

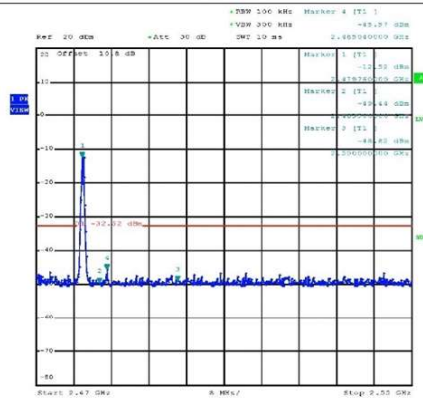
Appendix G: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-12.41	-46.46	≤-32.41	PASS
DH5	Ant1	High	2480	-12.52	-45.57	≤-32.52	PASS
DH5	Ant1	Low	Hop_2402	-12.50	-46.13	≤-32.5	PASS
DH5	Ant1	High	Hop_2480	-12.55	-46.62	≤-32.55	PASS
3DH5	Ant1	Low	2402	-12.40	-46.91	≤-32.4	PASS
3DH5	Ant1	High	2480	-12.41	-46.97	≤-32.41	PASS
3DH5	Ant1	Low	Hop_2402	-12.62	-46.79	≤-32.62	PASS
3DH5	Ant1	High	Hop_2480	-13.68	-46.89	≤-33.68	PASS

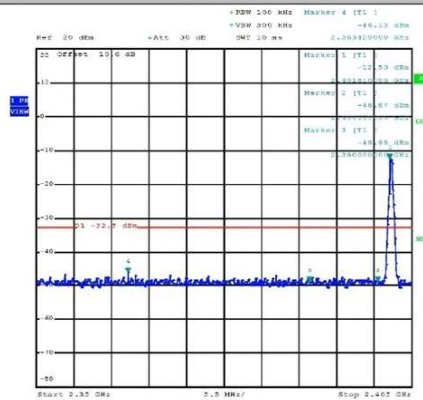
Test Graphs





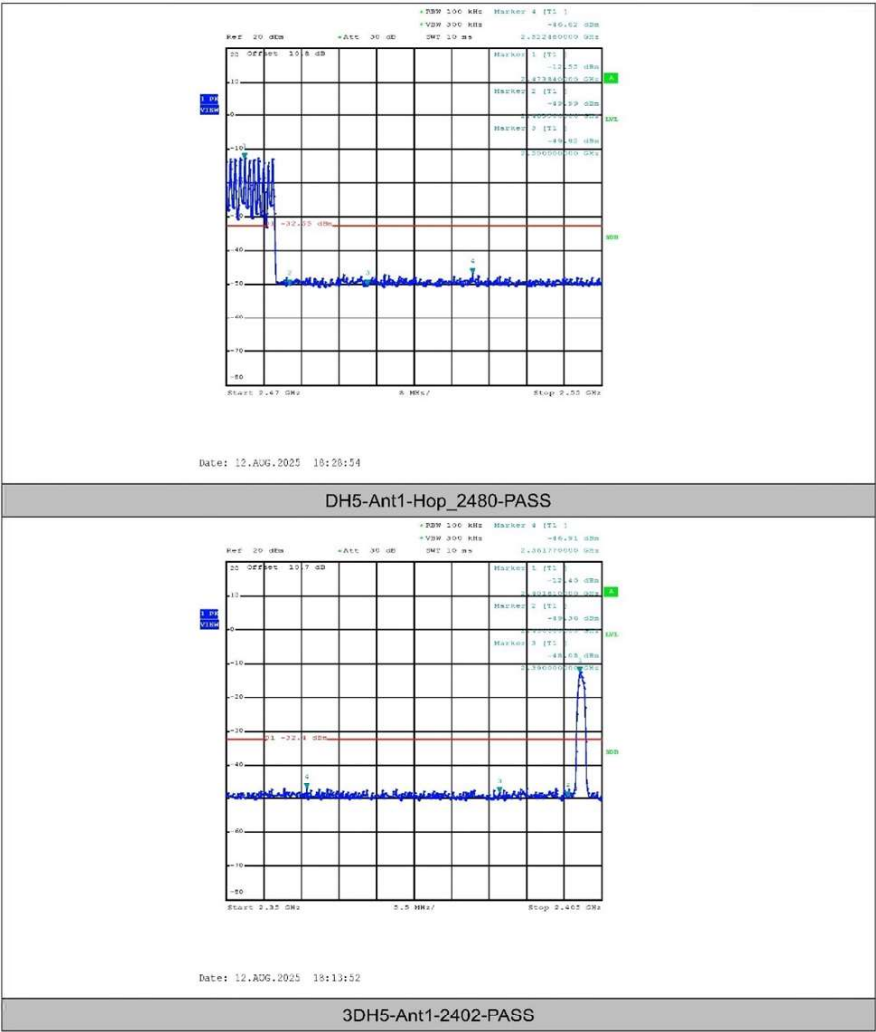
Date: 12.AUG.2025 18:08:09

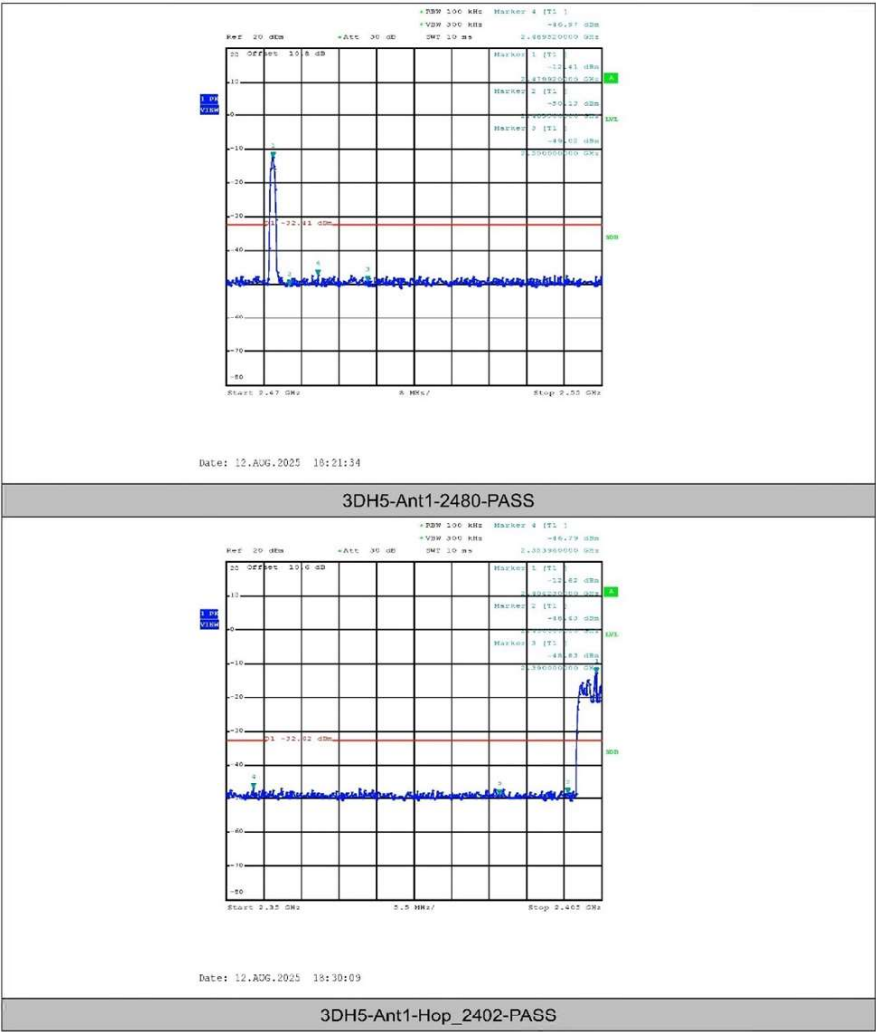
DH5-Ant1-2480-PASS



Date: 12.AUG.2025 18:25:38

DH5-Ant1-Hop_2402-PASS







9. Conducted Spurious Emission of BR & EDR

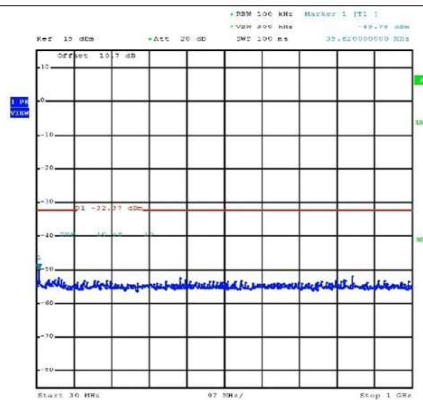
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-12.37	-12.37	---	PASS
DH5	Ant1	2402	30~1000	-12.37	-49.75	≤-32.37	PASS
DH5	Ant1	2402	1000~26500	-12.37	-37.43	≤-32.37	PASS
DH5	Ant1	2441	0~Reference	-11.98	-11.98	---	PASS
DH5	Ant1	2441	30~1000	-11.98	-50.53	≤-31.98	PASS
DH5	Ant1	2441	1000~26500	-11.98	-33.83	≤-31.98	PASS
DH5	Ant1	2480	0~Reference	-12.33	-12.33	---	PASS
DH5	Ant1	2480	30~1000	-12.33	-50.62	≤-32.33	PASS
DH5	Ant1	2480	1000~26500	-12.33	-39.52	≤-32.33	PASS
3DH5	Ant1	2402	0~Reference	-12.23	-12.23	---	PASS
3DH5	Ant1	2402	30~1000	-12.23	-50.29	≤-32.23	PASS
3DH5	Ant1	2402	1000~26500	-12.23	-38.94	≤-32.23	PASS
3DH5	Ant1	2441	0~Reference	-11.82	-11.82	---	PASS
3DH5	Ant1	2441	30~1000	-11.82	-49.47	≤-31.82	PASS
3DH5	Ant1	2441	1000~26500	-11.82	-38.7	≤-31.82	PASS
3DH5	Ant1	2480	0~Reference	-11.93	-11.93	---	PASS
3DH5	Ant1	2480	30~1000	-11.93	-49.63	≤-31.93	PASS
3DH5	Ant1	2480	1000~26500	-11.93	-40.46	≤-31.93	PASS

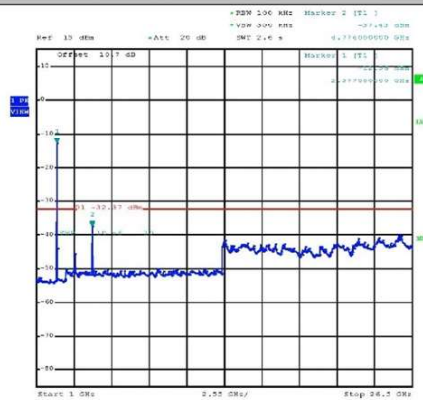
Test Graphs





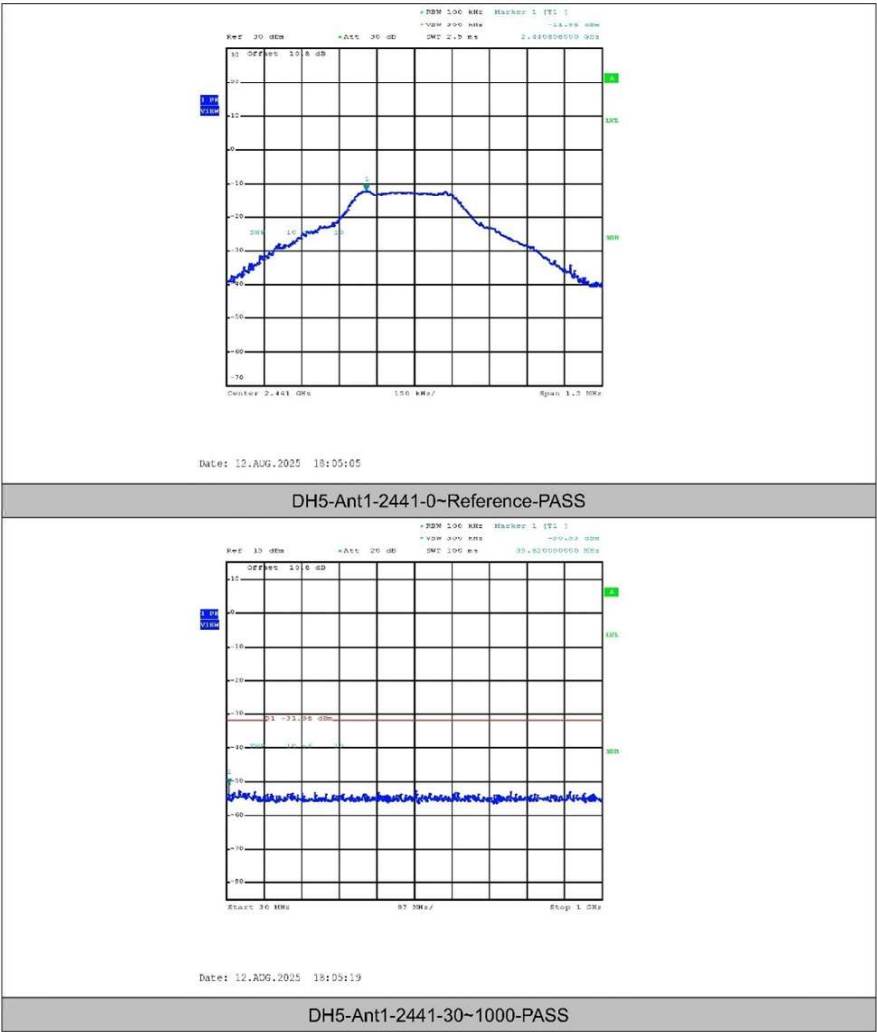
Date: 12.AUG.2025 18:02:23

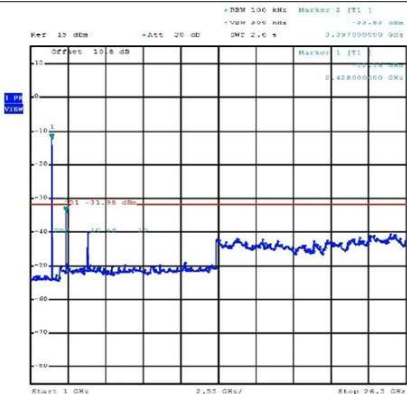
DH5-Ant1-2402-30~1000-PASS



Date: 12.AUG.2025 18:04:07

DH5-Ant1-2402-1000~26500-PASS





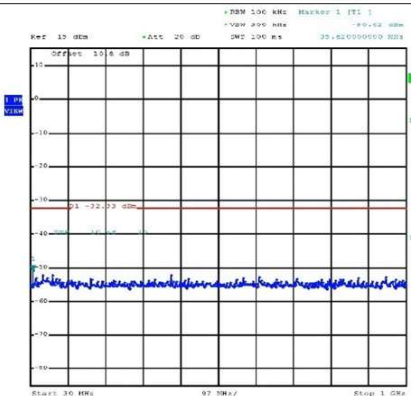
Date: 12.AUG.2025 18:07:03

DH5-Ant1-2441-1000-26500-PASS

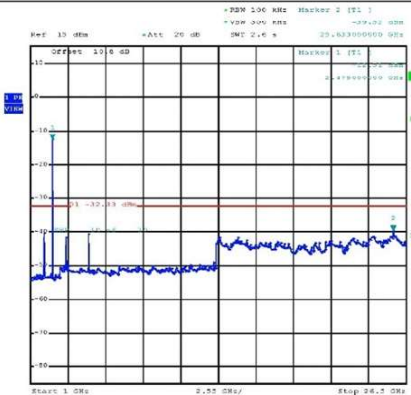


Date: 12.AUG.2025 18:09:20

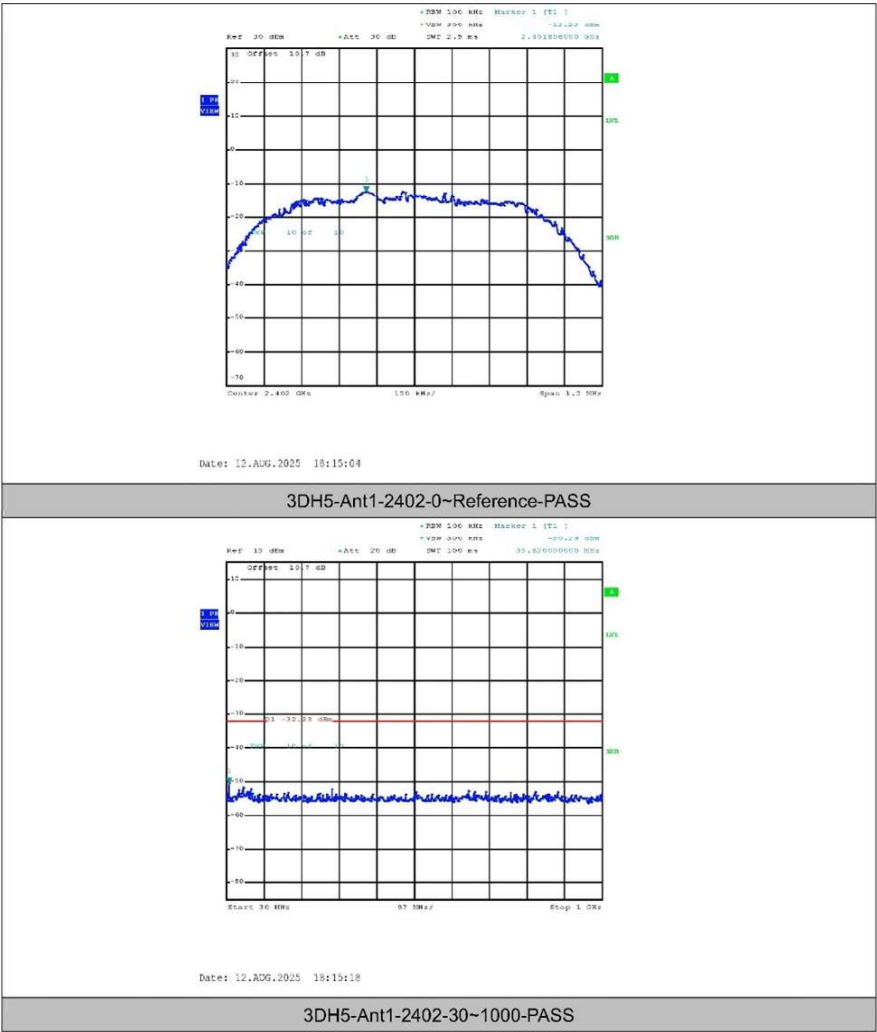
DH5-Ant1-2480-0-Reference-PASS

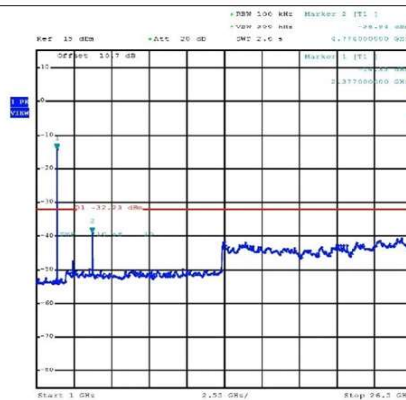


DH5-Ant1-2480-30~1000-PASS



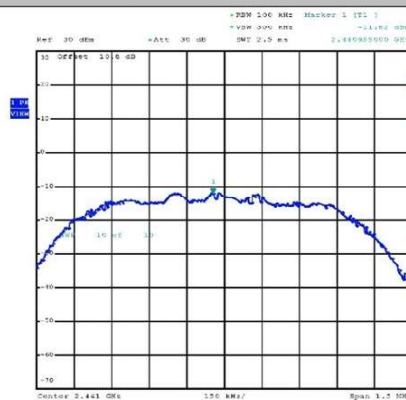
DH5-Ant1-2480-1000~26500-PASS





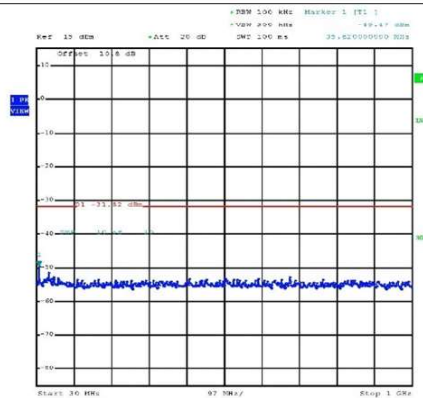
Date: 12.AUG.2025 18:17:02

3DH5-Ant1-2402-1000-26500-PASS



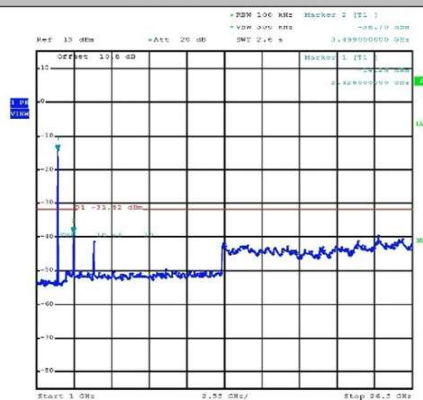
Date: 12.AUG.2025 18:17:57

3DH5-Ant1-2441-0-Reference-PASS



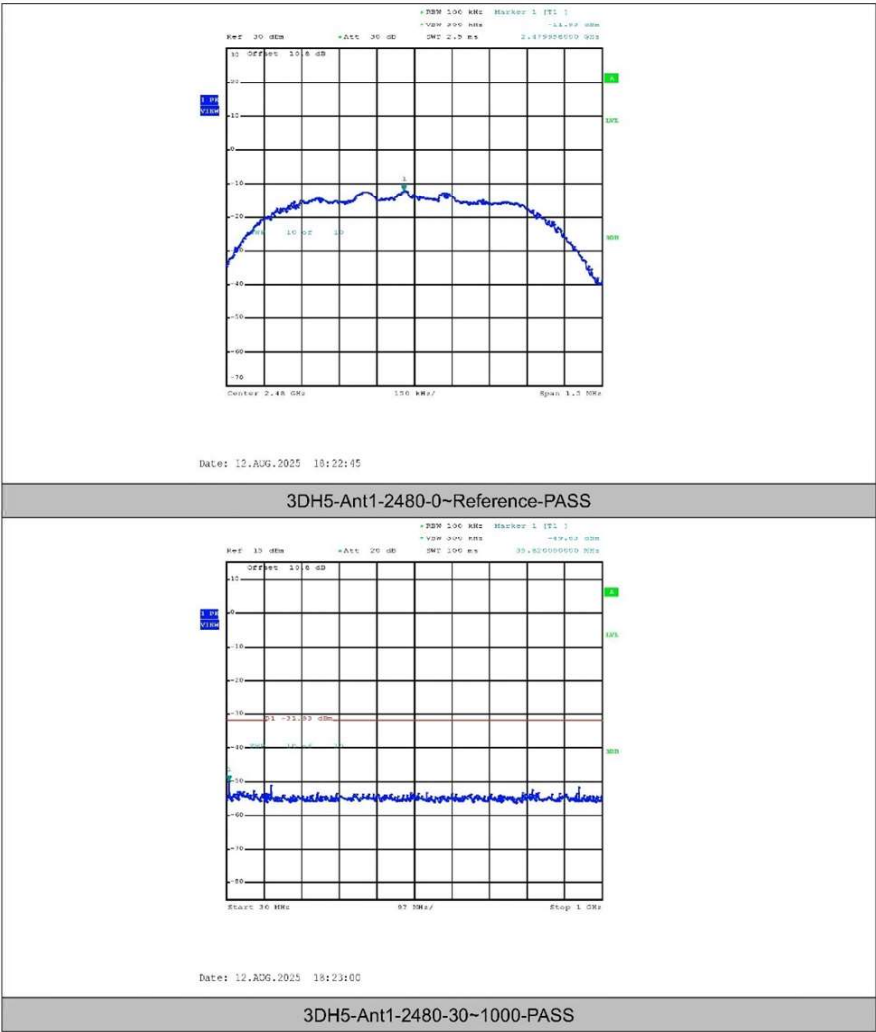
Date: 12.AUG.2025 18:18:12

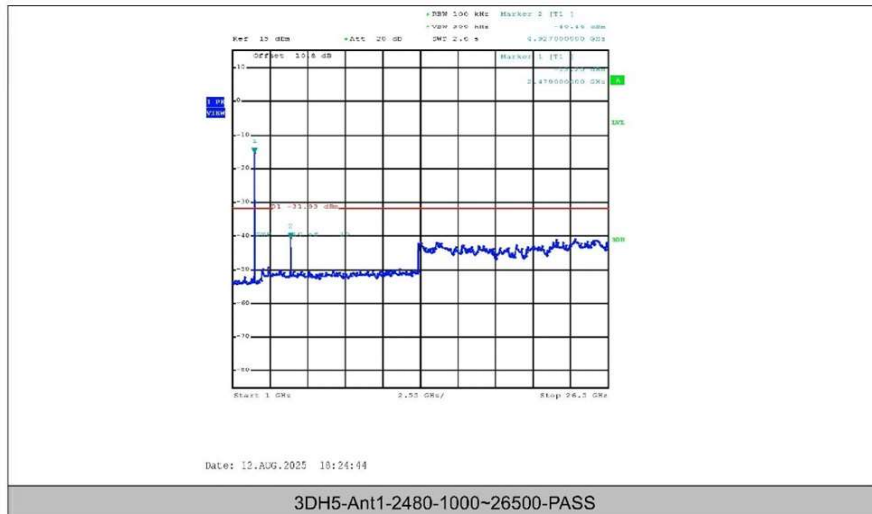
3DH5-Ant1-2441-30~1000-PASS



Date: 12.AUG.2025 18:19:56

3DH5-Ant1-2441-1000~26500-PASS





10.DTS Bandwidth of BLE

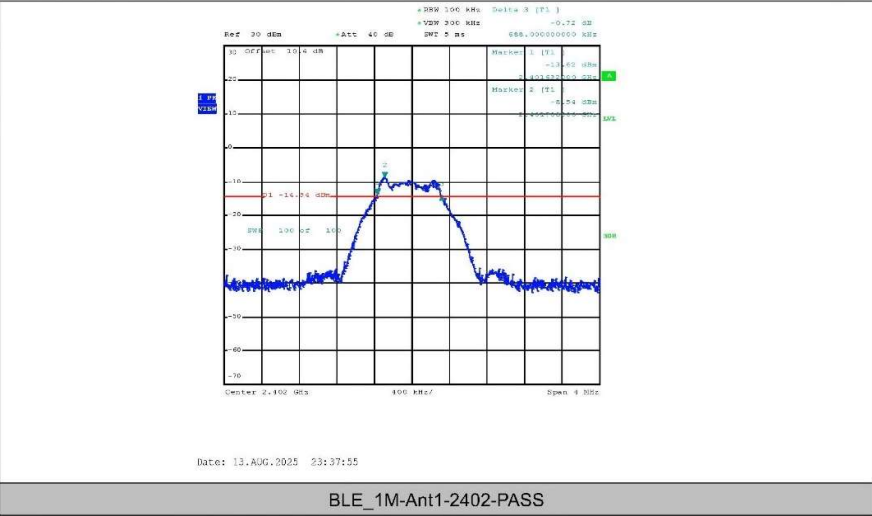
Case No. : 170423584	
Ambient Condition: 25 °C, 50 %RH,	
EUT : ES-1203	
Standard : FCC Part 15	
Remark : BLE	
Tested By: Jason Wu	Reviewed By: Jacky Chen
20250812	20250818

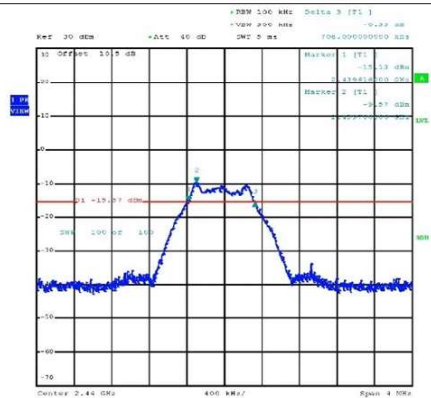
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.69	2401.63	2402.32	0.5	PASS
BLE_1M	Ant1	2440	0.71	2439.62	2440.32	0.5	PASS
BLE_1M	Ant1	2480	0.70	2479.62	2480.32	0.5	PASS

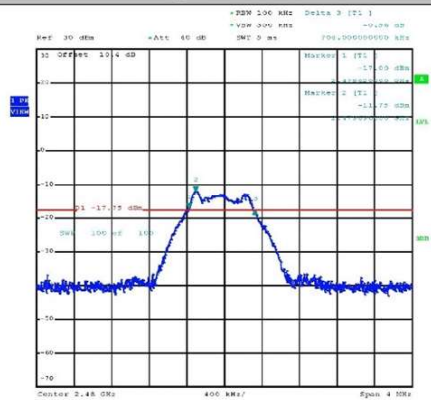
Test Graphs





Date: 13.AUG.2025 23:48:38

BLE_1M-Ant1-2440-PASS



Date: 13.AUG.2025 23:57:14

BLE_1M-Ant1-2480-PASS

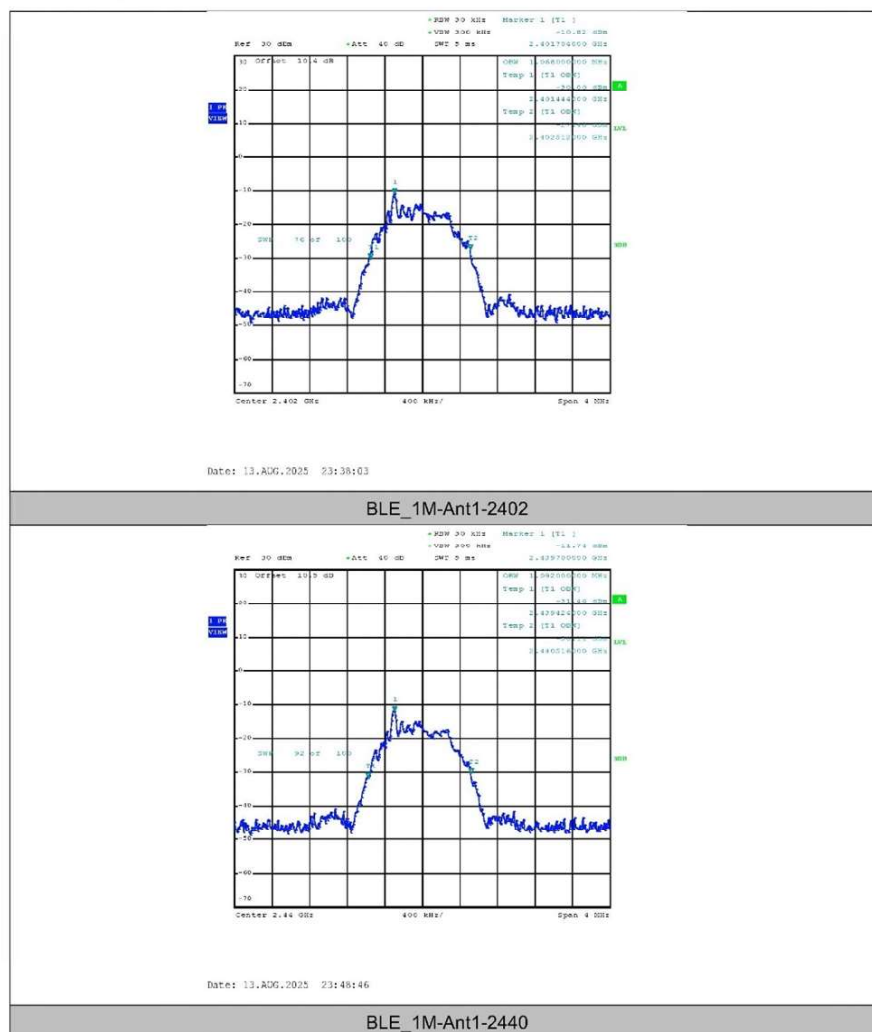
11.Occupied Channel Bandwidth of BLE

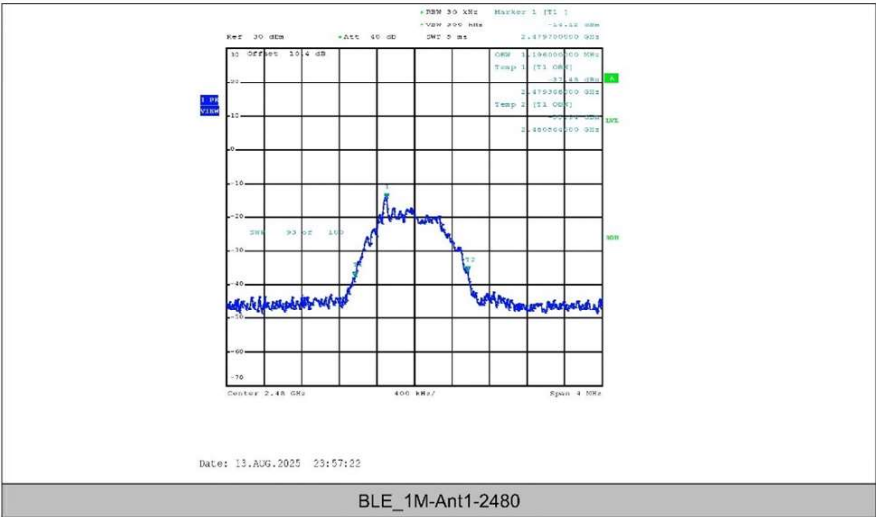
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.068	2401.4440	2402.5120	---	---
BLE_1M	Ant1	2440	1.092	2439.4240	2440.5160	---	---
BLE_1M	Ant1	2480	1.196	2479.3680	2480.5640	---	---

Test Graphs





12. Maximum conducted output power of BLE

Appendix C: Maximum conducted output power

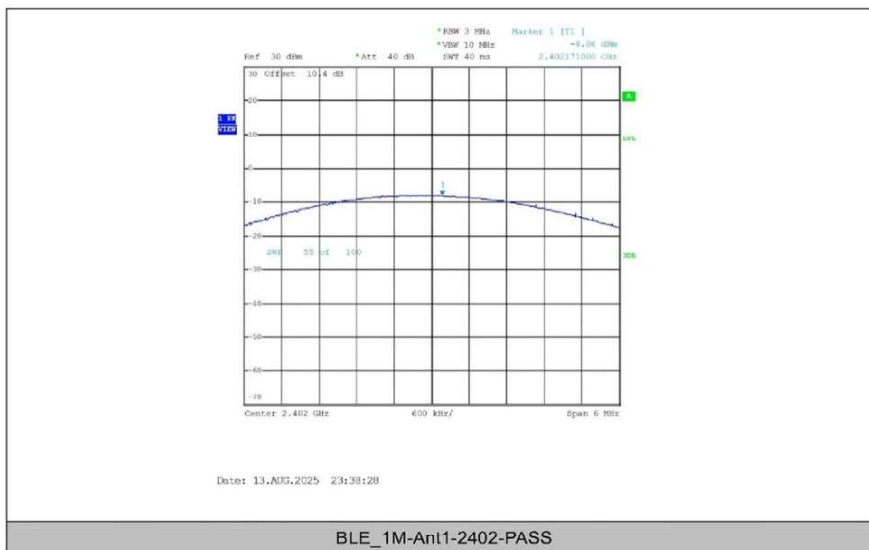
Test Result Peak

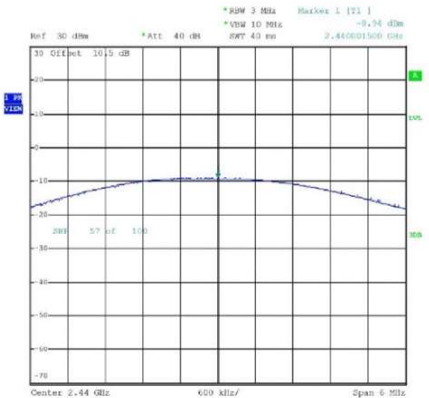
TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-8.06	≤30	-4.76	≤36	PASS
BLE_1M	Ant1	2440	-8.94	≤30	-5.64	≤36	PASS
BLE_1M	Ant1	2480	-11.14	≤30	-7.84	≤36	PASS

Test Result Average

Test Mode	Antenna	Frequency[MHz]	Conducted Sensor power[dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
BLE_1M	Ant1	2402	-10.05	68.25	1.66	-8.39	≤30.00	3.3	-5.09	≤36.00	PASS
BLE_1M	Ant1	2440	-9.99	100.00	0.00	-9.99	≤30.00	3.3	-6.69	≤36.00	PASS
BLE_1M	Ant1	2480	-11.37	100.00	0.00	-11.37	≤30.00	3.3	-8.07	≤36.00	PASS

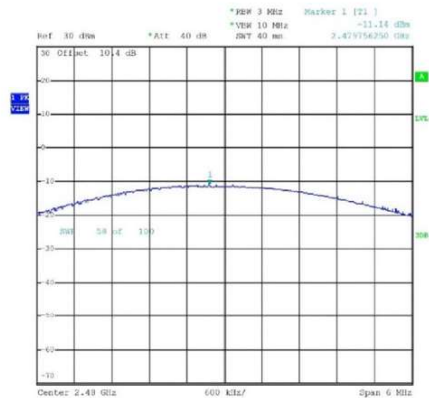
Test Graphs Peak





Date: 13.AUG.2025 23:51:22

BLE_1M-Ant1-2440-PASS



Date: 13.AUG.2025 23:59:09

BLE_1M-Ant1-2480-PASS

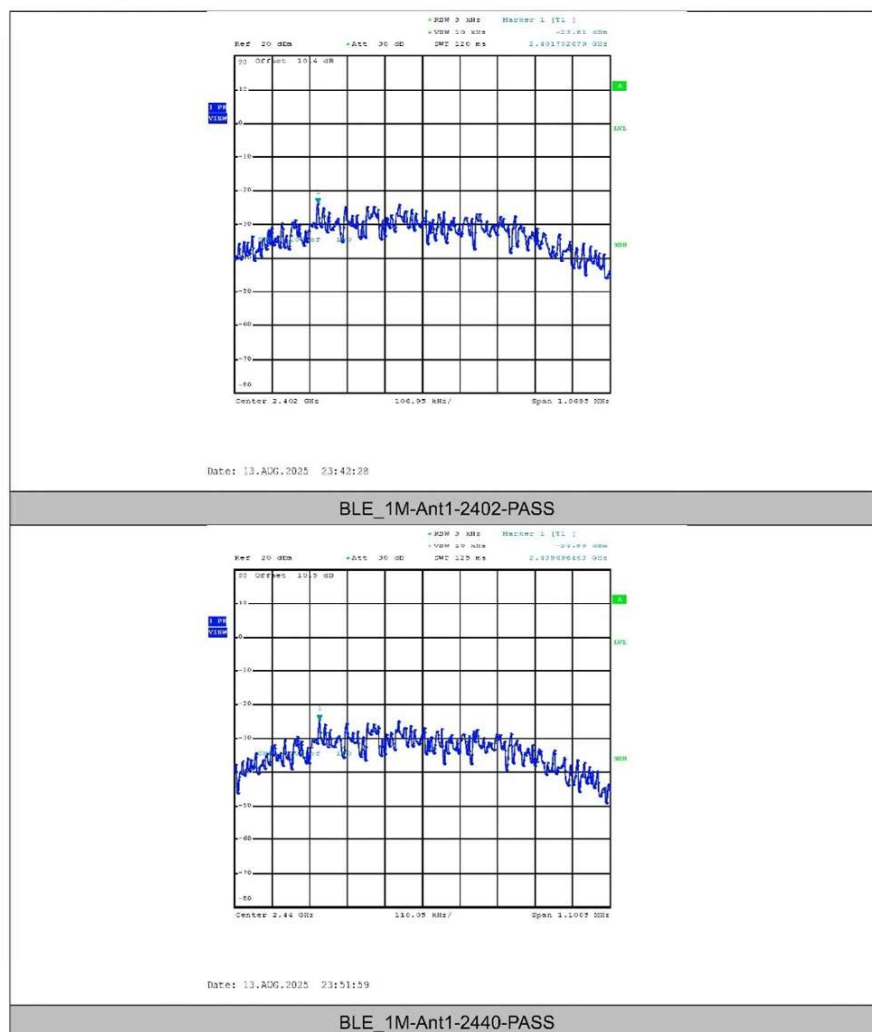
13. Maximum power spectral density of BLE

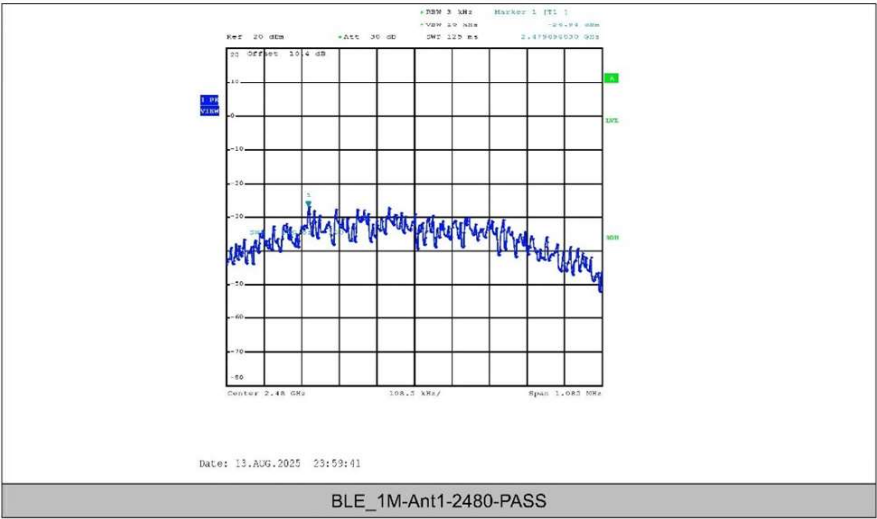
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-23.81	≤8.00	PASS
BLE_1M	Ant1	2440	-24.59	≤8.00	PASS
BLE_1M	Ant1	2480	-26.94	≤8.00	PASS

Test Graphs





14. Band edge measurements of BLE

Appendix F: Band edge measurements

Test Result

TestMod	Antenn	ChNam	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdic
e	a	e	]	]	]	]	t
BLE_1M	Ant1	Low	2402	-8.72	-46.31	≤-28.72	PASS
BLE_1M	Ant1	High	2480	-11.86	-46.49	≤-31.86	PASS

Test Graphs

