

JAPAN RADIO TEST REPORT

AlphaTheta Corporation

ACTIVE MONITOR SPEAKER

Model Number: DM-40D-BT-W

Additional Model: DM-40D-BT

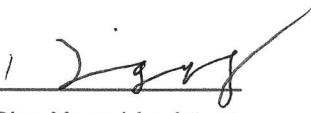
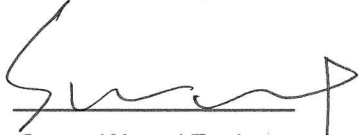
Applicant:	AlphaTheta Corporation
Address:	6F, Yokohama i-Mark Place,4-4-5 Minatomirai, Nishi-ku,
	Yokohama, Kanagawa, 220-0012 Japan
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Tel: 86-769-83081888-808	

Report Number:	ESTE-R2111030-1
Date of Test:	Sep. 28, 2021~ Nov. 03, 2021; Oct. 18, 2025~ Nov. 11, 2025
Date of Report:	Nov. 13, 2025

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Applicant:	AlphaTheta Corporation		
Address:	6F, Yokohama i-Mark Place, 4-4-5 Minatomirai, Nishi-ku, Yokohama, Kanagawa, 220-0012 Japan		
Manufacturer:	AlphaTheta Corporation		
Address:	6F, Yokohama i-Mark Place, 4-4-5 Minatomirai, Nishi-ku, Yokohama, Kanagawa, 220-0012 Japan		
Factory:	Zhao Yang Electronics (Shenzhen) Co., Ltd.		
Address:	101 Building 2, No.55 Liao Guang Road, Yu Lv Community, Yu Tang Street, Guang Ming District, Shenzhen, China		
E.U.T:	ACTIVE MONITOR SPEAKER		
Model Number:	DM-40D-BT-W		
Additional Model:	DM-40D-BT Note: Except for the model name and colors, the rest is identical.		
Power Supply:	AC 100V, 50/60Hz		
Trade Name:	<i>Pioneer Dj</i>	Serial No.:	-----
Date of Receipt:	Sep. 28, 2021; Oct. 18, 2025	Date of Test:	Sep. 28, 2021~ Nov. 03, 2021; Oct. 18, 2025~ Nov. 11, 2025
Test Rule:	MIC Notice No.88 Appendix No.43 MIC Article 2 paragraph 1 item 19		
Equipment Rule:	MIC Ordinance Regulating Radio Equipment Section 4.17 of Article 49.20		
Test Result:	The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the MIC rule requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd. Date: Dec. 05, 2025		
Prepared by:	Reviewed by:	Approved by:	
 Ring Yang / Assistant	 Seven Wang / Engineer	 Iceman Hu / Manager	
Other Aspects: This report base on the previous report with report number: ESTE-R2111030, a new antenna was added, and the factory information was updated.			
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products, It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd. The statement of compliance in this report is based on the limit in the test standard, the measurement uncertainty is not considered.			

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	:	ACTIVE MONITOR SPEAKER
Model Number	:	DM-40D-BT-W
Software Version	:	B
Hardware Version	:	B
Operation frequency	:	2402MHz~2480MHz
Number of channel	:	79
Declared Rated Power	:	GFSK: 0.0500 mW/MHz 8-DPSK: 0.0500 mW/MHz
Conducted Antenna Power	:	GFSK: 0.0315 mW/MHz 8-DPSK: 0.0344 mW/MHz
Modulation Type	:	BT BDR(1Mbps): GFSK BT EDR(2Mbps): $\pi/4$ -DQPSK BT EDR(3Mbps): 8-DPSK
Sample Type	:	Prototype production
Note: The product information is provided by the manufacturer. The laboratory is not responsible for this data.		

1.2. Antenna Information

Ant No.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	-	JN.013-2060	FPCB	-	2.55
2	-	2.00001832	FPCB	-	3.34
Note:					
1. The antenna gain is declared by the customer and the laboratory is not responsible for the accuracy of the antenna gain.					
2. The test results of this report only apply to the sample as received.					

1.3. Information of RF Cable

Cable Loss(dB)	Provided by
1.0	AlphaTheta Corporation
Note:	
1. The customer declared the loss value of the RF Cable. and the test results of this report only apply to the sample as received.	
2. The laboratory is not responsible for the accuracy of the cable loss.	

2.SUMMARY OF TEST

2.1.Summary of test result

No.	Description of Test Item	Results
1	Frequency Tolerance	PASS
2	Occupied Bandwidth & Spread Bandwidth	PASS
3	Spurious Emission Intensity	PASS
4	Antenna Power& Antenna Power Tolerance & EIRP Power	PASS
5	Dwell Time	PASS
6	Secondary Radiated Emissions	PASS
7	Interference Prevention Function	PASS
8	Construction Protection Confirmation Method	PASS

2.2. Test Facilities

EMC Lab : Accredited by CNAS, CHINA
Registration No.: L5288
This Accreditation is valid until: November 12, 2029

Recognized by FCC, USA
Designation Number: CN1215
This Recognition is valid until: January 31, 2026

Accredited by A2LA, USA
Registration No.: 4366.01
This Accreditation is valid until: January 31, 2026

Recognized by Industry Canada
CAB identifier No.: CN0035
This Recognition is valid until: January 31, 2026

Recognized by VCCI, Japan
Registration No.: C-14103; T-20073; R-13663;
R-20103; G-20097
Date of registration: Apr. 20, 2020
This Recognition is valid until: Apr. 19, 2026

Recognized by TUV Rheinland, Germany
Registration No.: UA 50413872 0001
Date of registration: July 31, 2018

Recognized by Intertek
Registration No.: 2011-RTL-L2-64
Date of registration: November 08, 2018

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan,
Guangdong, China

2.3.Measurement uncertainty

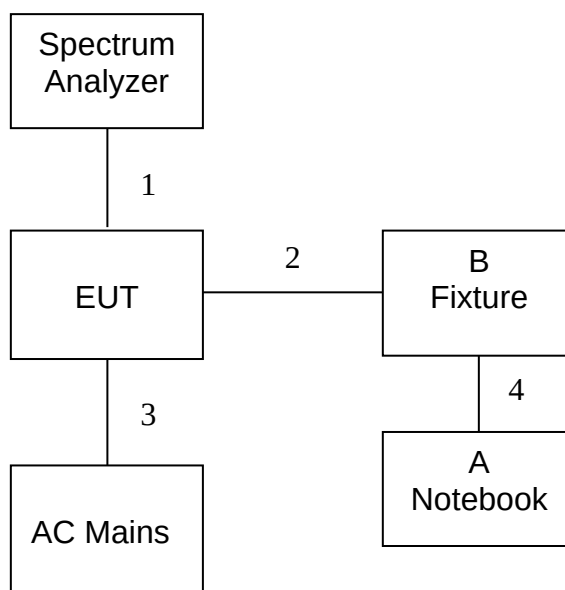
Uncertainty for Radiated Spurious Emission test in RF chamber	±4.60 dB(Polarize: H) (Bilog antenna 30M~1000MHz)
	±4.68 dB(Polarize: V) (Bilog antenna 30M~1000MHz)
	±4.96dB (Horn antenna 1000M~25000MHz)
Uncertainty for Conduction Spurious emission test	0.26 dB
Uncertainty for Output power test	1.08dB
Uncertainty for Power density test	0.26 dB
Uncertainty for Temperature and humidity test	2%
	1°C
Uncertainty for Frequency range test	7×10^{-8}
Uncertainty for Bandwidth test	7×10^{-8}
Uncertainty for DC power test	0.042 %
Uncertainty for test site temperature and humidity	0.6°C
	3%
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

2.4.Assistant equipment used for test

Item	Equipment	Brand	Model Name/Type No.	Series No.
A	Notebook	Lenovo	Thinkpad X250	2014AP6082
B	Fixture	N/A	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	0.2m	RF Cable
2	NO	NO	0.5m	DC Cable
3	NO	NO	1.5m	AC Cable
4	NO	NO	0.8m	USB Cable

2.5. Block Diagram



(EUT: ACTIVE MONITOR SPEAKER)

2.6. Test Mode

Combining all the rates, modulations, and packet types, the Pre-scans had been carried out. The worst case test mode was selected for the final test as listed below(The modulation type GFSK and 8-DPSK were the worst case test mode).

Test Item	Modulation Type	Operating Mode	Packet Type	Test Channel
Frequency Tolerance	-	Carrier	-	Low/Middle/High
Occupied Bandwidth& Spread Bandwidth	GFSK&8-DPSK	Hopping	DH5	All Channel Hopping
Spurious Emission Intensity	GFSK&8-DPSK	Non Hopping	DH5	Low/Middle/High
Antenna Power& Antenna Power Tolerance &EIRP Power	GFSK&8-DPSK	Hopping	DH5	All Channel Hopping
Dwell Time	GFSK&8-DPSK	Hopping	DH1/DH3/ DH5	Middle(All Channel Hopping)
Secondary Radiated Emissions	GFSK&8-DPSK	Receive	-	-
Interference Prevention Function	Normal Use			

2.7.Power Setting of Test Software

Software Name	BT FCC Tool V2.24		
Frequency(MHz)	2402	2441	2480
GFSK(1Mbps) Setting	4	4	4
8-DPSK(3Mbps) Setting	4	4	4

2.8.Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	1	2403	2	2404	3	2405
4	2406	5	2407	6	2408	7	2409
8	2410	9	2411	10	2412	11	2413
12	2414	13	2415	14	2416	15	2417
16	2418	17	2419	18	2420	19	2421
20	2422	21	2423	22	2424	23	2425
24	2426	25	2427	26	2428	27	2429
28	2430	29	2431	30	2432	31	2433
32	2434	33	2435	34	2436	35	2437
36	2438	37	2439	38	2440	39	2441
40	2442	41	2443	42	2444	43	2445
44	2446	45	2447	46	2448	47	2449
48	2450	49	2451	50	2452	51	2453
52	2454	53	2455	54	2456	55	2457
56	2458	57	2459	58	2460	59	2461
60	2462	61	2463	62	2464	63	2465
64	2466	65	2467	66	2468	67	2469
68	2470	69	2471	70	2472	71	2473
72	2474	73	2475	74	2476	75	2477
76	2478	77	2479	78	2480	-	-

2.9. Test Equipment List

Equipment List during the test period Sep. 28, 2021~ Nov. 03, 2021

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Spectrum Analyzer	Rohde&Schwarz	FSV40	EST-E069	LISAI	July 19,21	1 Year
DC Source	ZHAOXIN	RXN-305D	EST002-001	LISAI	June 13,21	1 Year
AC Source	CHANGJIANG	3KV	EST215-007	LISAI	June 13,21	1 Year
Signal Generator	Rohde &Schwarz	SMB-B112	104537	LISAI	June 13,21	1 Year
TS 8997	Rohde &Schwarz	/	/	/	/	/
Open Switch and Control Unit	Rohde &Schwarz	OSP-B157W B	EST-E036	LISAI	June 13,21	1Year
Signal and Spectrum Analyzer	Rohde &Schwarz	FSV	EST-E037	LISAI	June 13,21	1 Year
Signal Generator	Rohde &Schwarz	SMB100A	EST-E038	LISAI	June 13,21	1 Year
Vector Signal Generator	Rohde &Schwarz	SMBV100A	EST-E039	LISAI	June 13,21	1Year
Test Software	Rohde &Schwarz	WMS32	V10.50.00	N/A	N/A	N/A

Note: The calibration agency listed on the table corresponds to item ii c) of Article 24-2 paragraph 4.

2.10. Power Supply of Test

Input Voltage(V)	Normal	Low(-10%)	High(+10%)
	100	90	110
Supply voltage to the RF circuitry(V)	3.30	3.29	3.31
Voltage variation(%)	Ref	-0.30	0.30

Note:

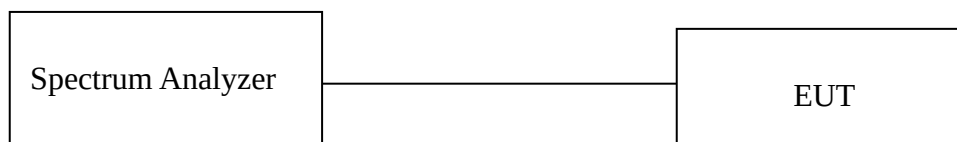
1. Voltage variation(%)=[(High or Low supply voltage to the RF circuitry-Normal supply voltage to the RF circuitry)/Normal supply voltage to the RF circuitry]×100.
2. If the Voltage variation supplied to the radio part (excluding power supply circuit) of
The EUT is kept within +/- 1% when input voltage from an external power supply variation by +/- 10%, the test shall be measured with the rated voltage only.

3.FREQUENCY TOLERANCE

3.1.Limit

±50ppm

3.2.Test Setup



3.3.Spectrum Analyzer Setting

Spectrum Parameters	Setting
RBW	10KHz
VBW	10KHz
Span	1MHz
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

3.4.Test Procedure

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with section 3.3.
- Set the EUT transmit continuously with maximum output power over fixed single hopping channel.
- Allow trace to stabilize, use the marker function to mark the highest emission level, record the frequency of the highest emission level.
- Repeat above procedures until all channels and test modes were measured.
- Record the results in the test report.

3.5.Environment Conditions of Test Site

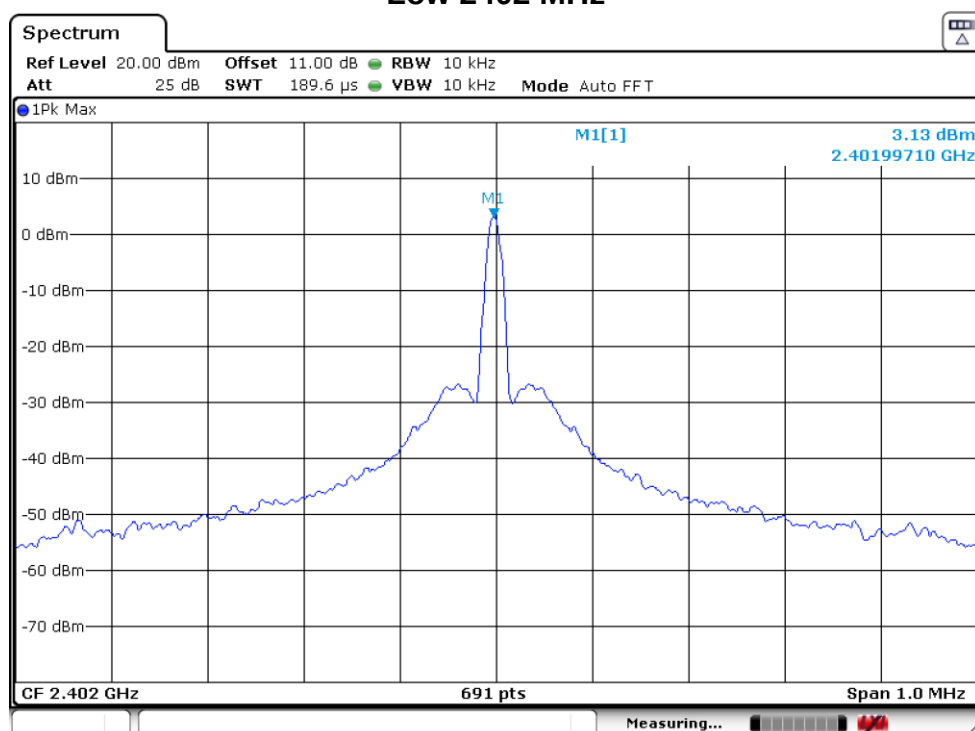
Temperature	24.6°C	Relative Humidity	59%
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3.6. Test Result

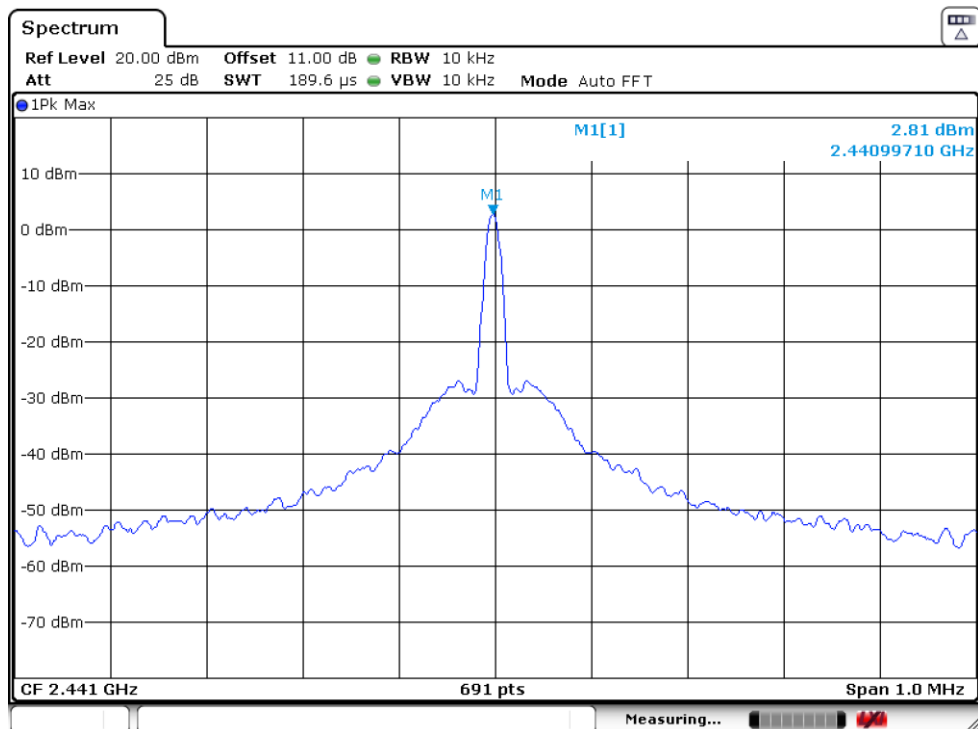
Test Voltage	AC 100V/60Hz				
Test Mode	Test Frequency (MHz)	Measured Frequency (MHz)	Frequency Tolerance (ppm)	Limit (ppm)	Result
Carrier	2402	2401.9971	-1.21	-50~+50	Pass
	2441	2440.9971	-1.19	-50~+50	Pass
	2480	2479.9971	-1.17	-50~+50	Pass

Note: Frequency Tolerance(ppm)=[(Measured Frequency(MHz)-Test Frequency(MHz))/Test Frequency(MHz)]×10⁶

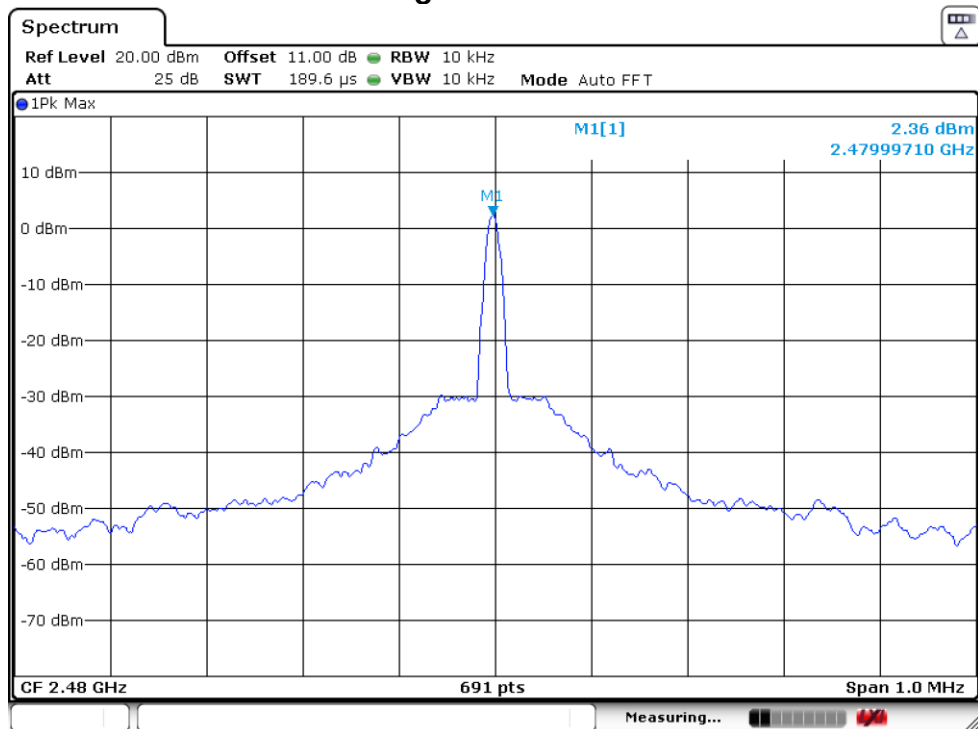
Low 2402 MHz



Mid 2441 MHz



High 2480 MHz



4.OCCUPIED BANDWIDTH & SPREAD BANDWIDTH

4.1.Limit

Item	Limits
Occupied Bandwidth	FH: $\leq 83.5\text{MHz}$ FH+DS: $\leq 83.5\text{MHz}$ FH+OFDM: $\leq 83.5\text{MHz}$ OFDM: 20MHz system $\leq 26\text{MHz}$ & $26\text{MHz} < 40\text{MHz}$ system $\leq 40\text{MHz}$ Other: $\leq 26\text{MHz}$

4.2.Test Setup



4.3.Spectrum Analyzer Setting

Spectrum Parameters	Setting
RBW	Less than 3% of the acceptable value(Limit)
VBW	Comparable to RBW
Span	2-3.5 times the acceptable value
Sweep Time	Minimum amount of time to ensure measurement accuracy (in the case of burst waves, 1 burst per sample)
Detector	Peak
Trace Mode	Max Hold

4.4.Test Procedure

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with section 4.3.
- Set the EUT transmit continuously with maximum output power in all channel hopping mode.
- Allow trace to stabilize, use the 99% power bandwidth function to measure occupied bandwidth.
- Repeat step a to c, use the 90% power bandwidth function to measure spread bandwidth.
- Repeat above procedures until all test mode were measured.
- Record the results in the test report.

4.5.Environment Conditions of Test Site

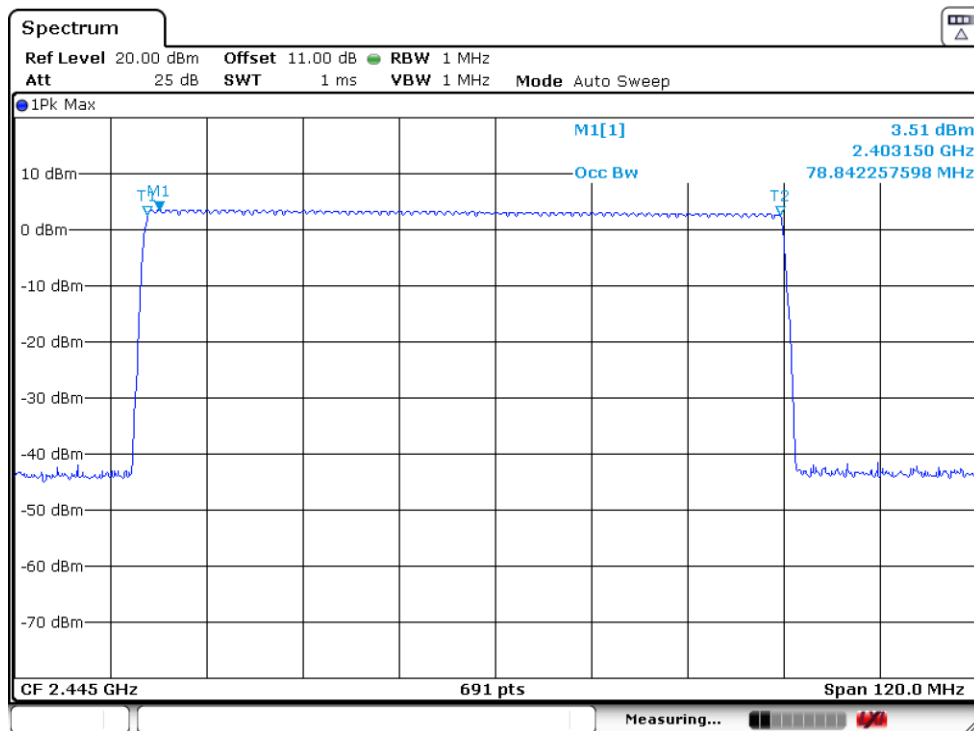
Temperature	24.6℃	Relative Humidity	59%
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4.6. Test Result

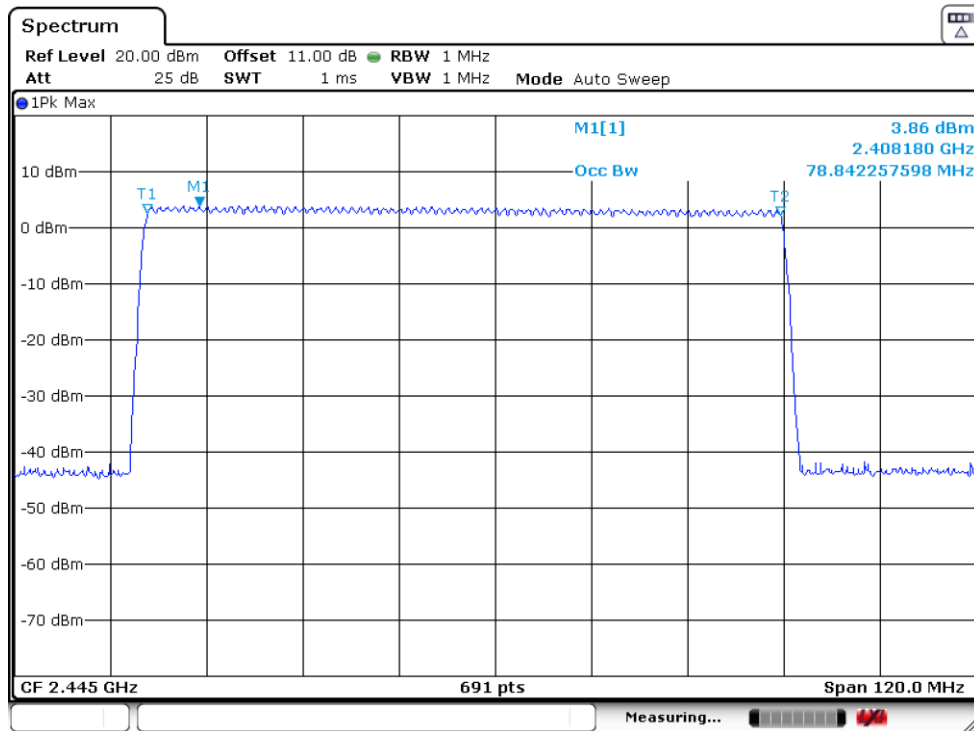
Test Voltage	AC 100V/60Hz				
Test Mode	Occupied Bandwidth (MHz)	Spread Bandwidth (MHz)	Occupied Bandwidth Limit (MHz)	Spread Bandwidth Limit (MHz)	Result
GFSK	78.84	71.55	≤ 83.5	-	Pass
8-DPSK	78.84	71.72	≤ 83.5	-	Pass

Occupied Bandwidth

GFSK

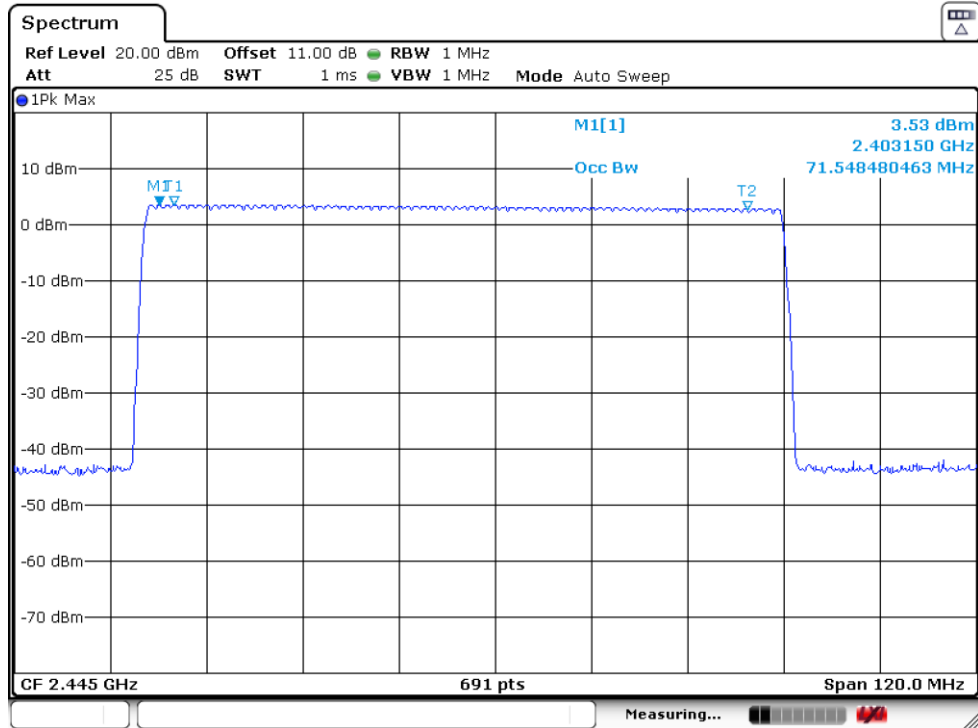


8-DPSK

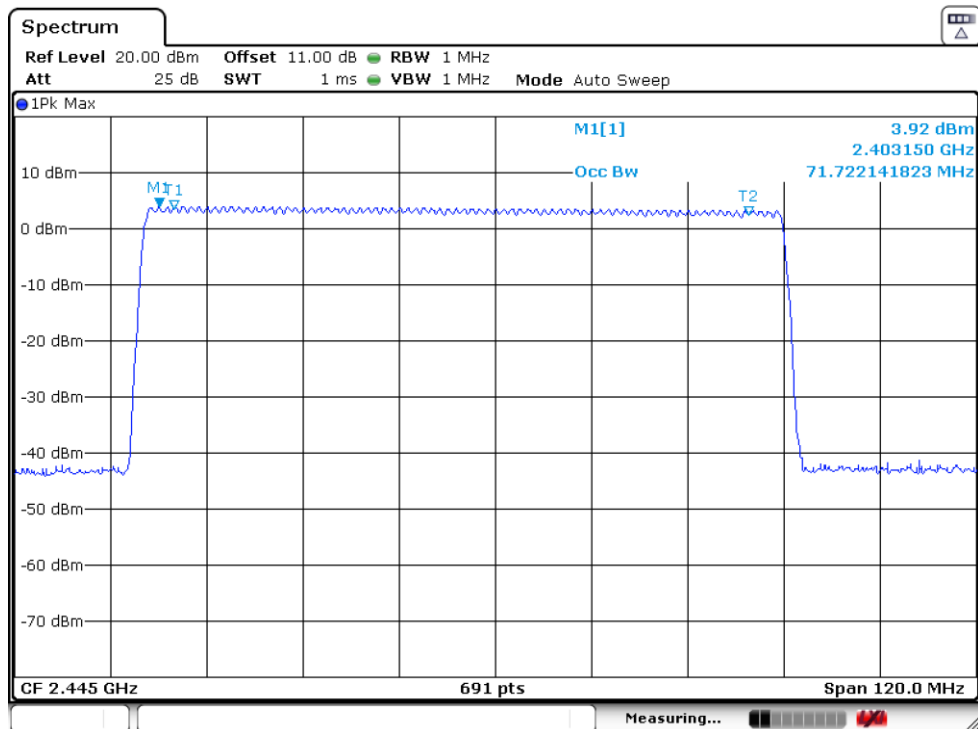


Spread Bandwidth

GFSK



8-DPSK

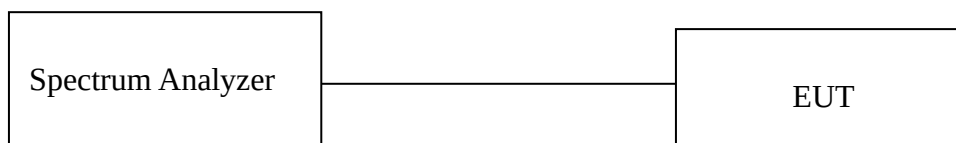


5.SPURIOUS EMISSION INTENSITY

5.1.Limit

Item	Limits
Spurious Emission Intensity	30MHz~1000MHz: $\leq 2.5\mu\text{W/MHz}(-26\text{dBm/MHz})$
	1000MHz~2387MHz: $\leq 2.5\mu\text{W/MHz}(-26\text{dBm/MHz})$
	2387MHz~2400MHz: $\leq 25\mu\text{W/MHz}(-16\text{dBm/MHz})$
	2483.5MHz~2496.5MHz: $\leq 25\mu\text{W/MHz}(-16\text{dBm/MHz})$
	2496.5 MHz~12750MHz: $\leq 2.5\mu\text{W/MHz}(-26\text{dBm/MHz})$

5.2.Test Setup



5.3.Spectrum Analyzer Setting

Spectrum Parameters	Setting
RBW	1MHz
VBW	1MHz
Sweep Time	Minimum amount of time to ensure measurement accuracy
Sweep Mode	Single sweep
Detector	Positive peak
Trace Mode	Max Hold

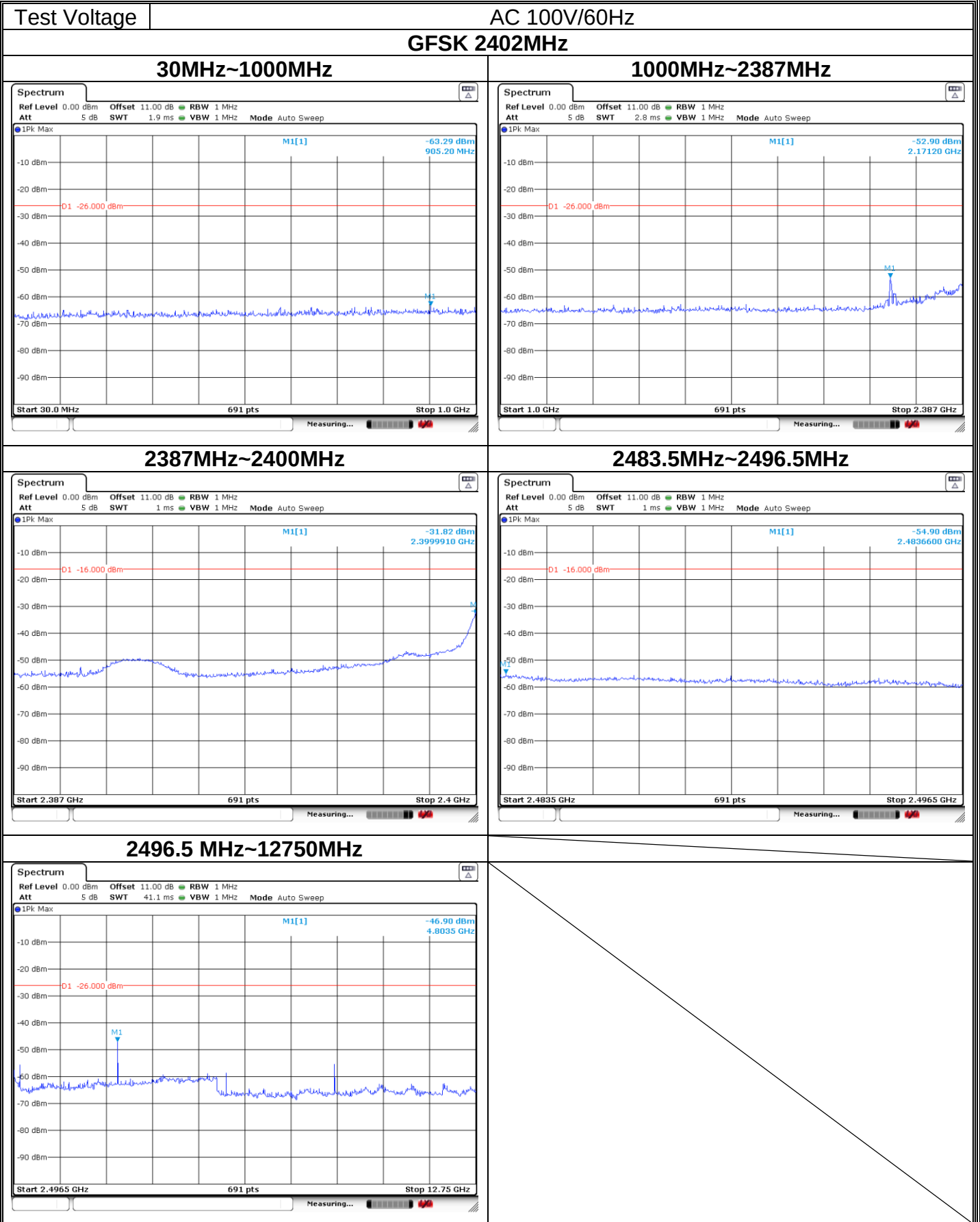
5.4.Test Procedure

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with section 5.3.
- Set the EUT transmit continuously with maximum output power in all channel hopping mode.
- Allow trace to stabilize, use the marker-to-peak function to set the marker to the peak of the emission.
- Repeat above procedures until all test mode were measured.
- Record the results in the test report.

5.5.Environment Conditions of Test Site

Temperature	24.6°C	Relative Humidity	59%
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5.6. Test Result



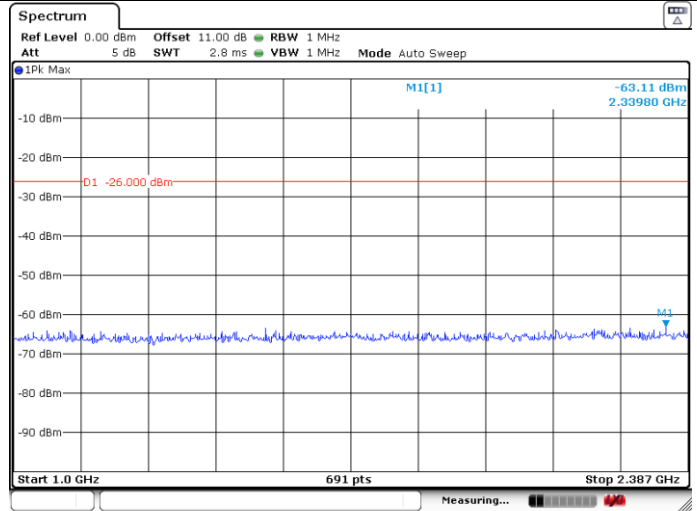
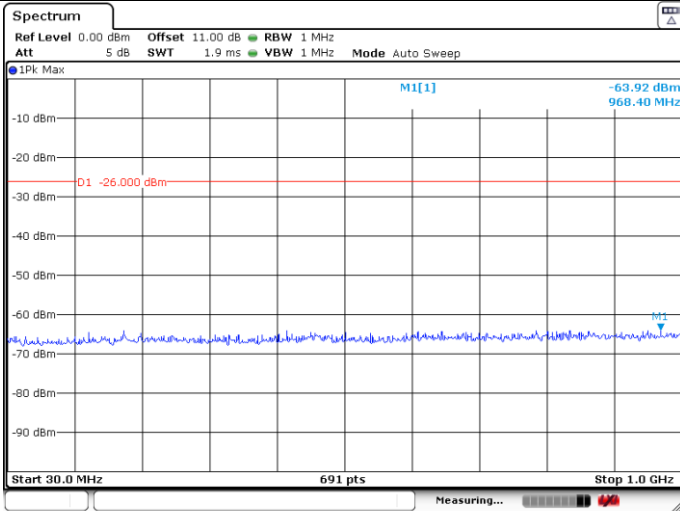
Test Voltage

AC 100V/60Hz

GFSK 2441MHz

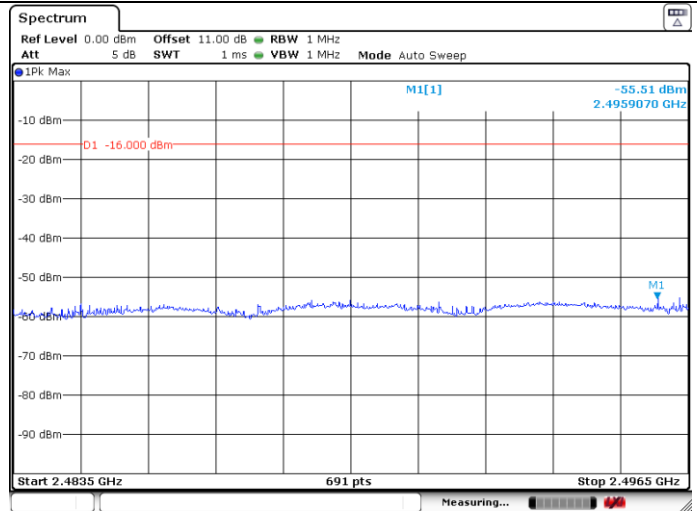
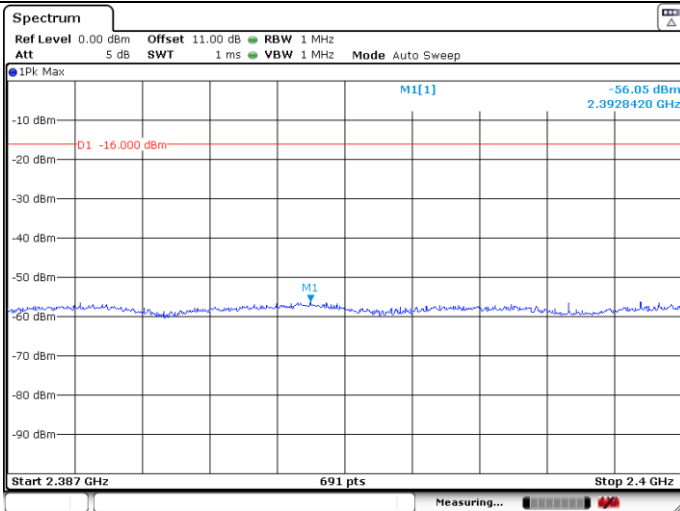
30MHz~1000MHz

1000MHz~2387MHz

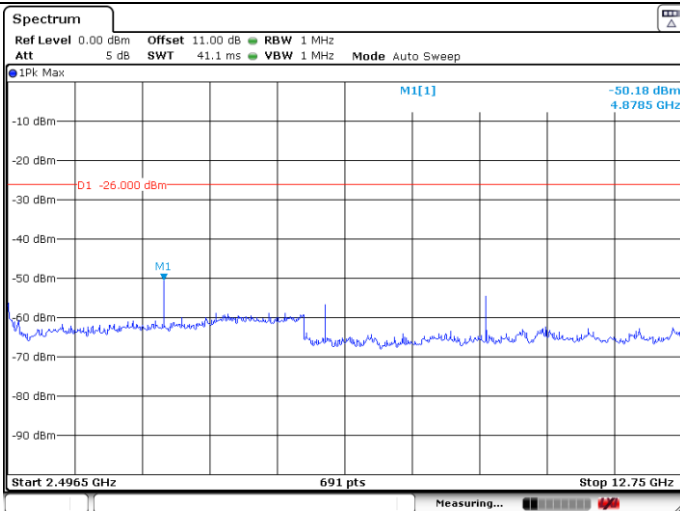


2387MHz~2400MHz

2483.5MHz~2496.5MHz



2496.5 MHz~12750MHz



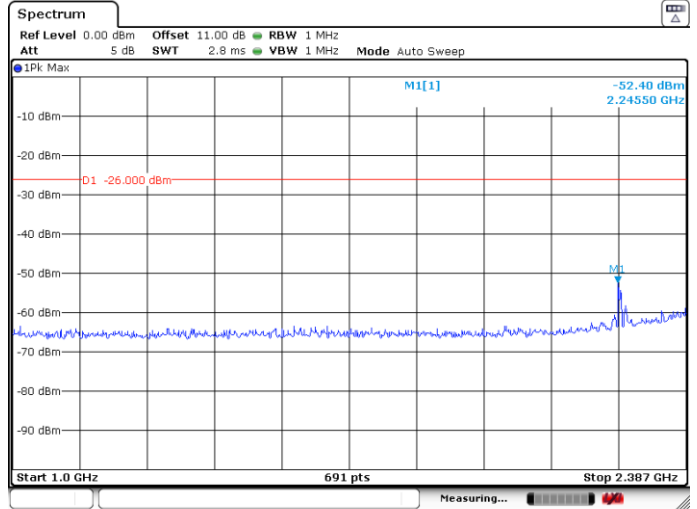
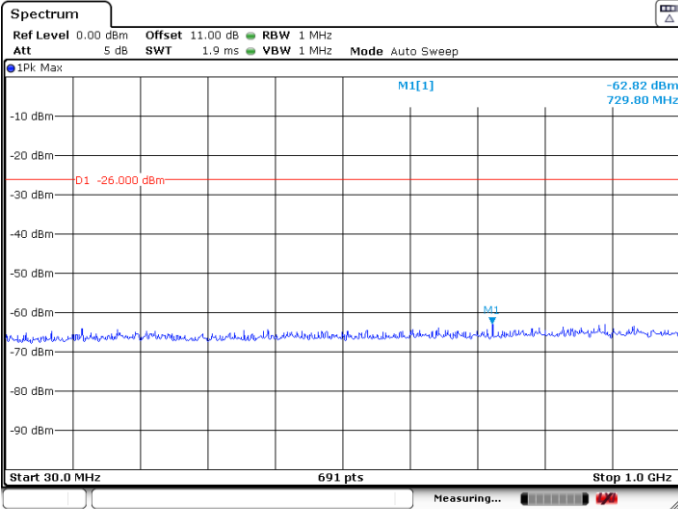
Test Voltage

AC 100V/60Hz

GFSK 2480MHz

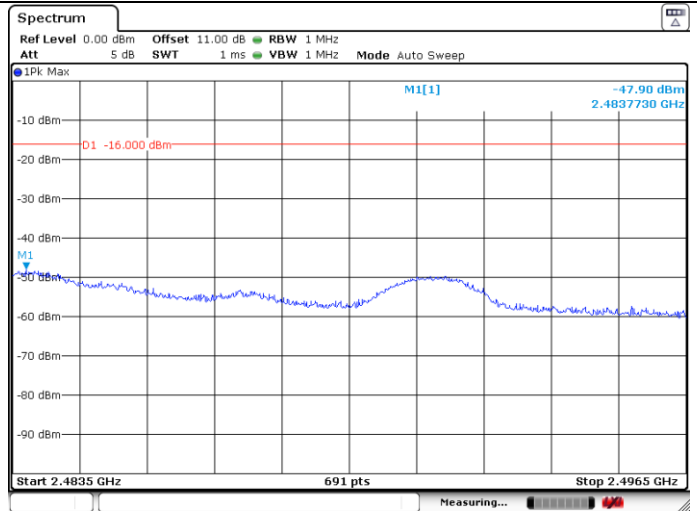
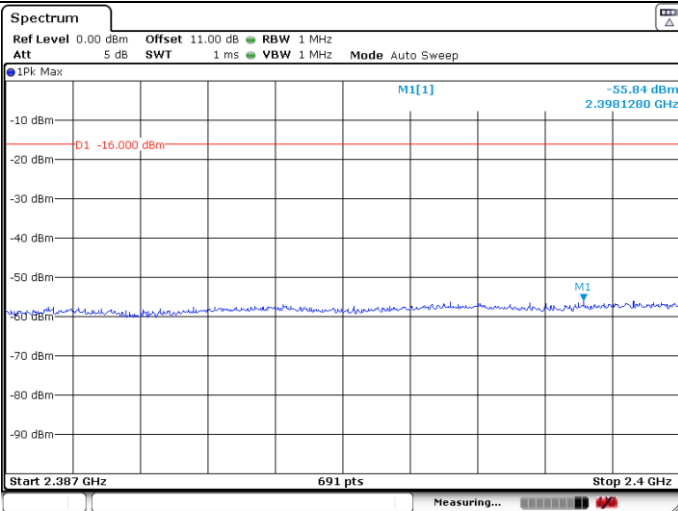
30MHz~1000MHz

1000MHz~2387MHz

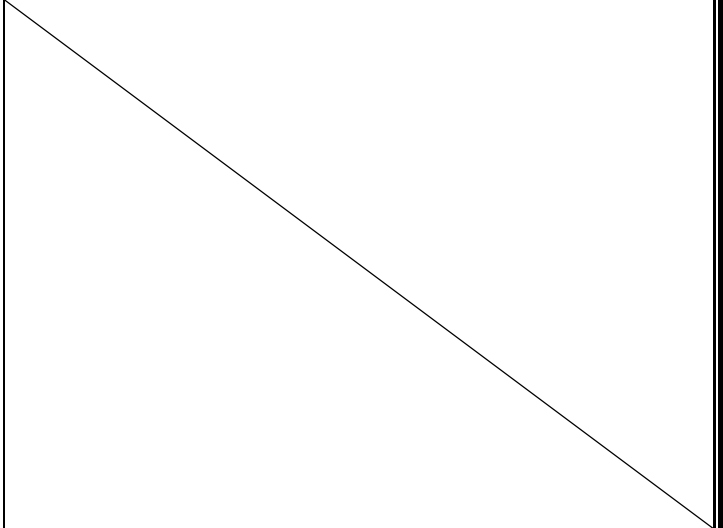
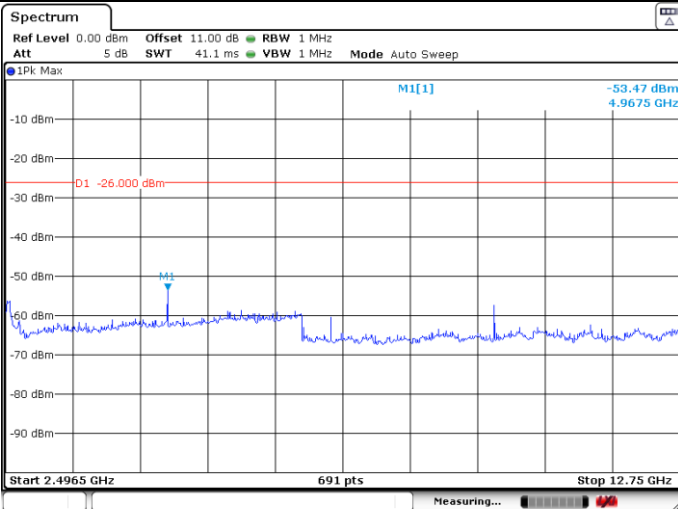


2387MHz~2400MHz

2483.5MHz~2496.5MHz



2496.5 MHz~12750MHz



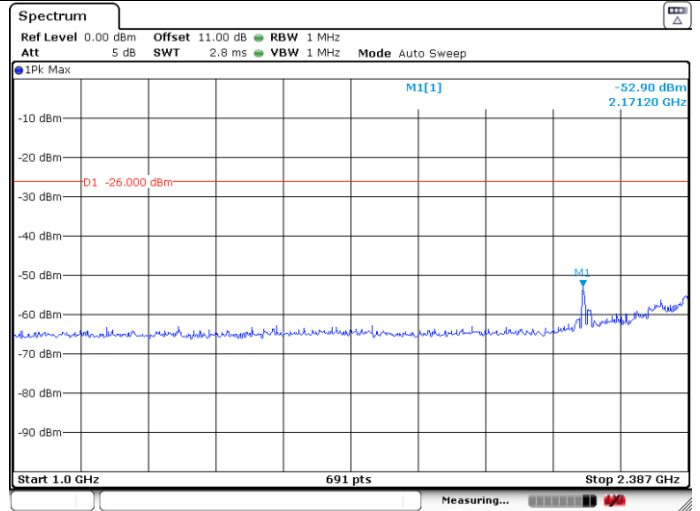
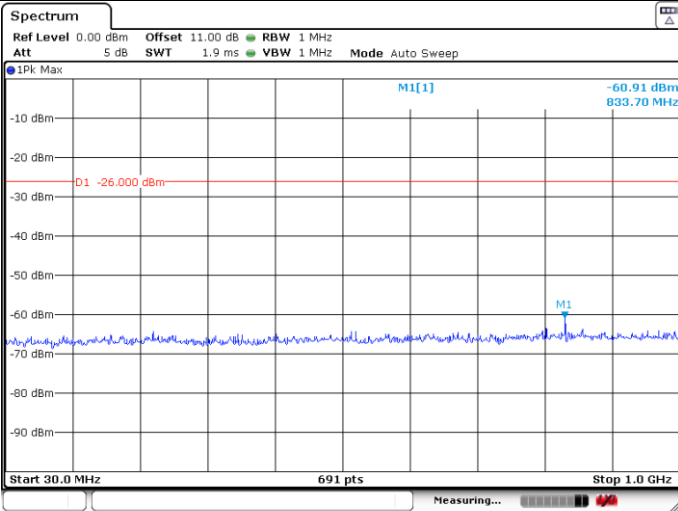
Test Voltage

AC 100V/60Hz

8-DPSK 2402MHz

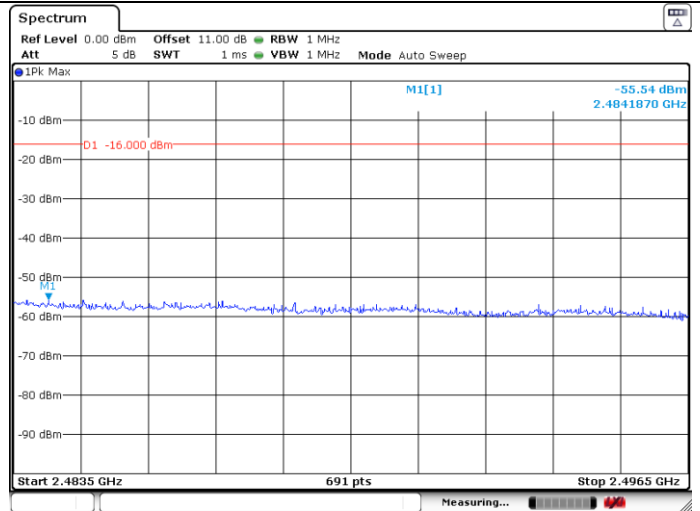
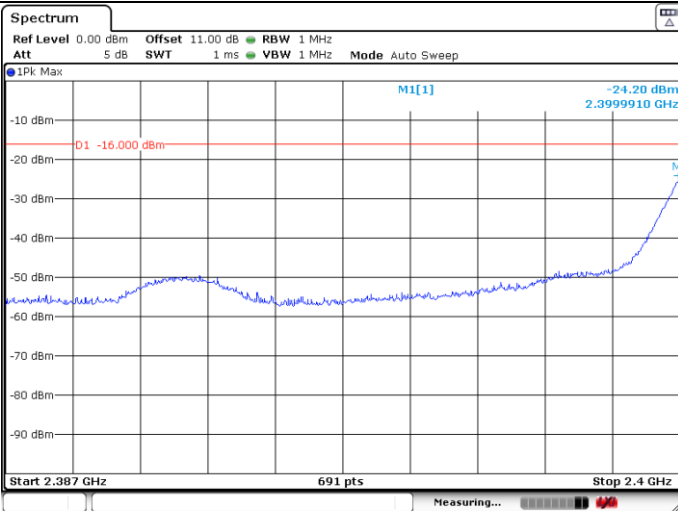
30MHz~1000MHz

1000MHz~2387MHz

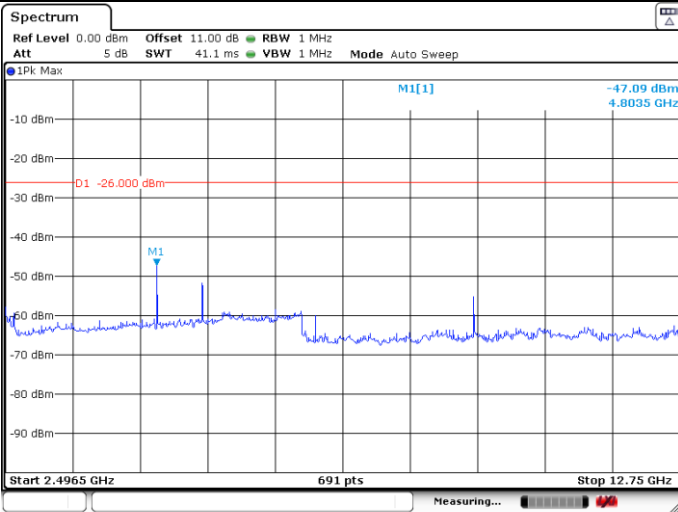


2387MHz~2400MHz

2483.5MHz~2496.5MHz



2496.5 MHz~12750MHz



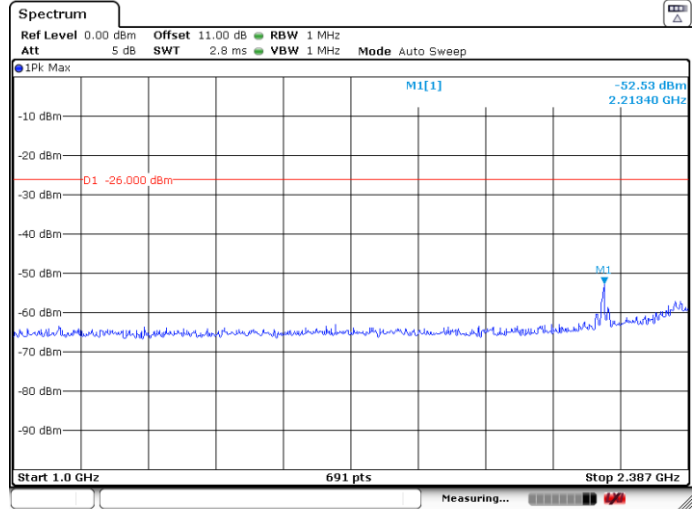
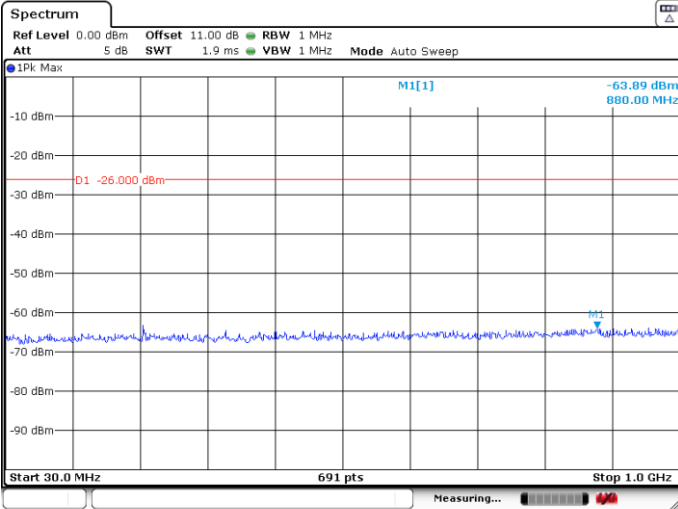
Test Voltage

AC 100V/60Hz

8-DPSK 2441MHz

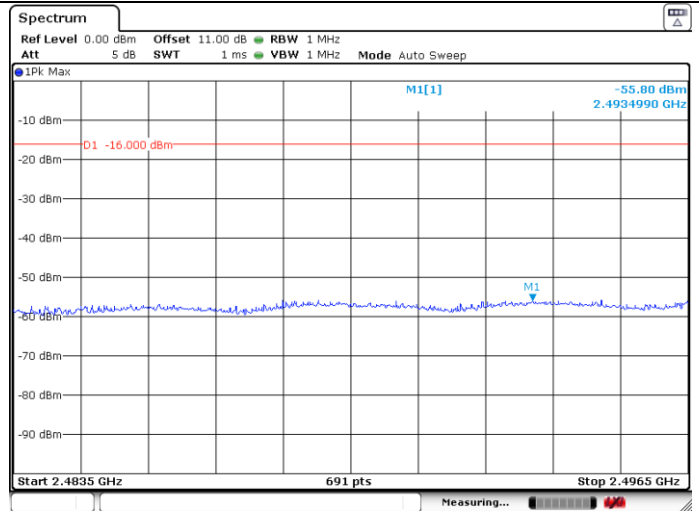
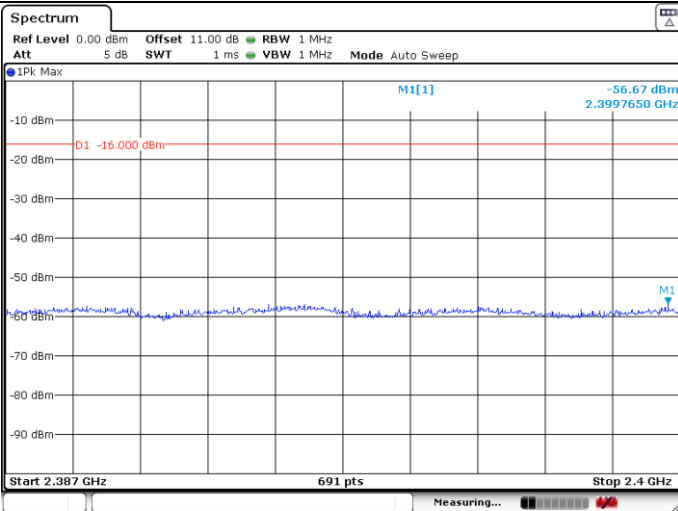
30MHz~1000MHz

1000MHz~2387MHz

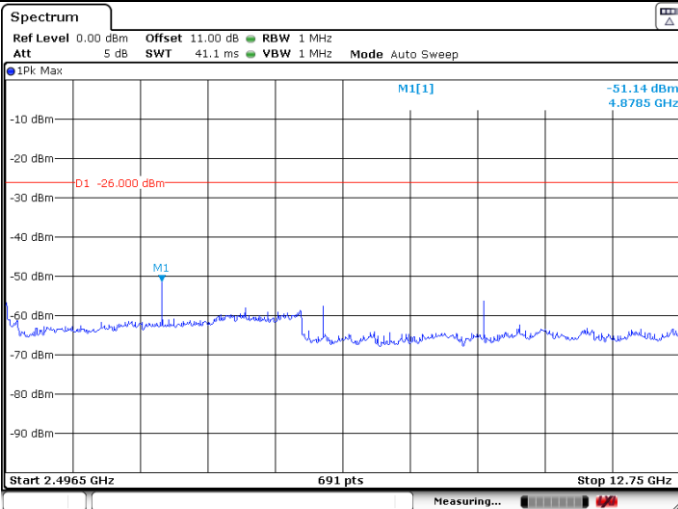


2387MHz~2400MHz

2483.5MHz~2496.5MHz



2496.5 MHz~12750MHz



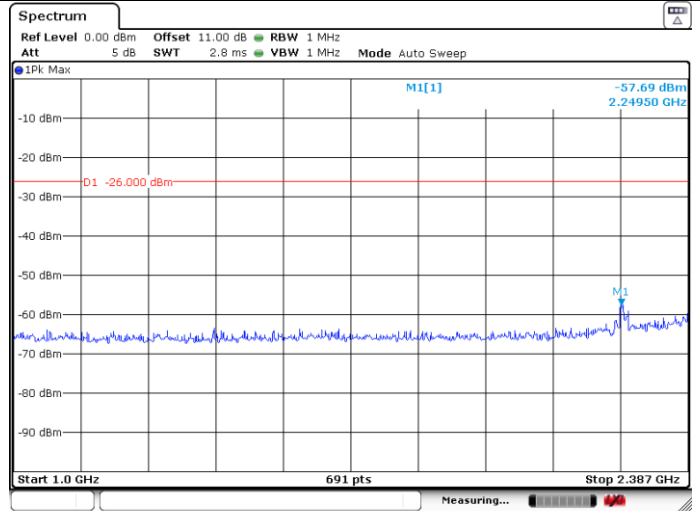
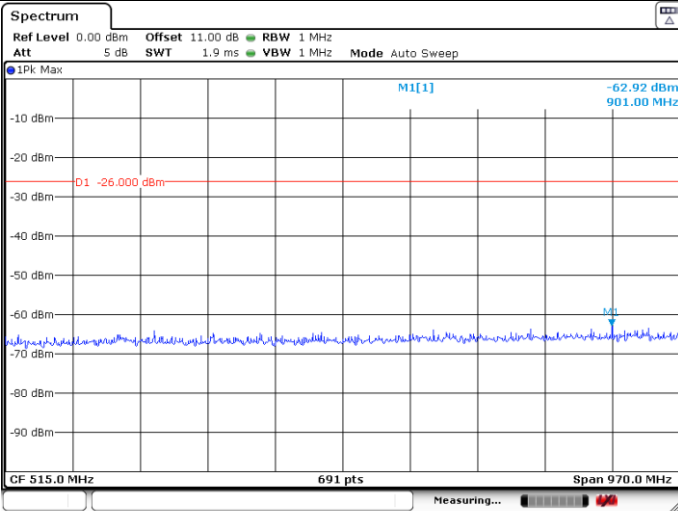
Test Voltage

AC 100V/60Hz

8-DPSK 2480MHz

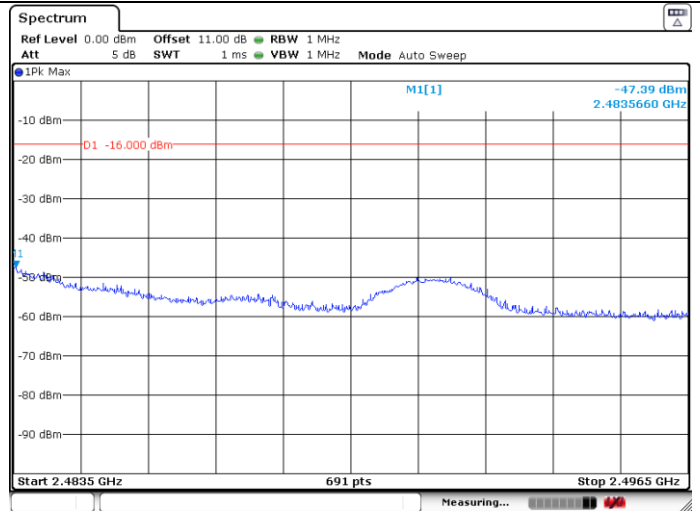
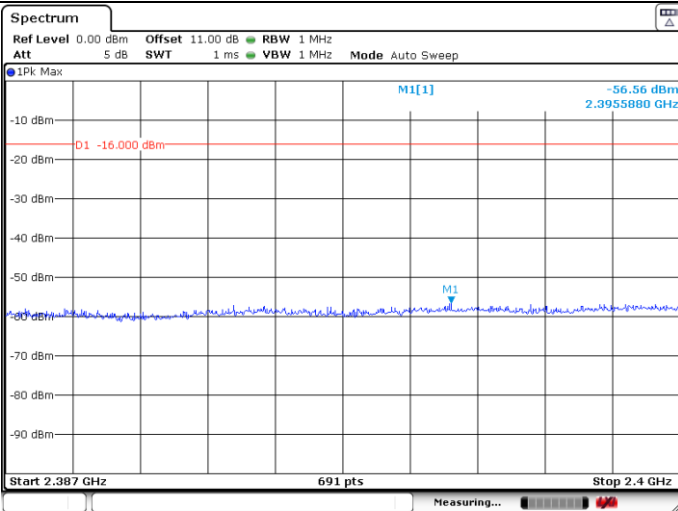
30MHz~1000MHz

1000MHz~2387MHz

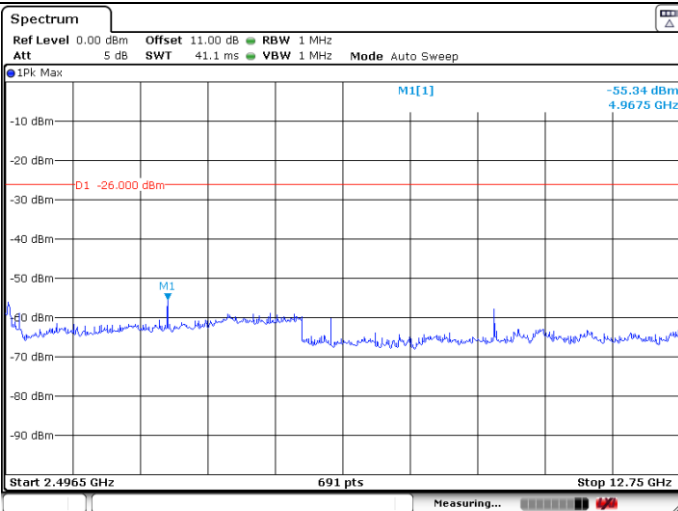


2387MHz~2400MHz

2483.5MHz~2496.5MHz



2496.5 MHz~12750MHz

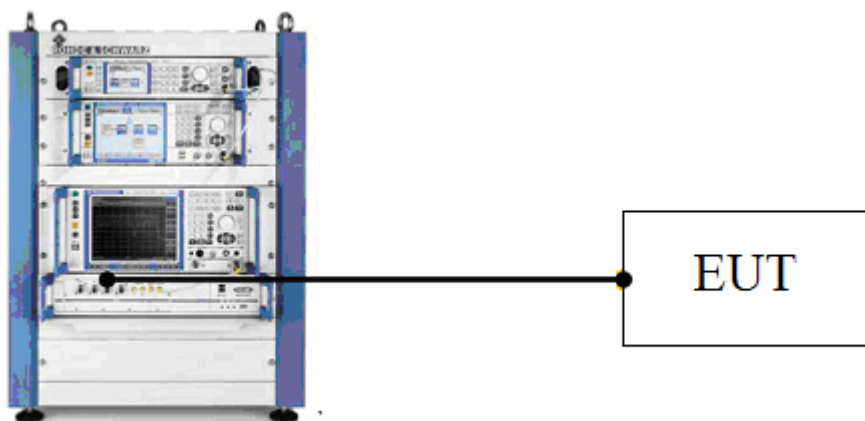


6.ANTENNA POWER& ANTENNA POWER TOLERANCE& EIRP POWER

6.1.Limit

Item	Limits
Antenna Power	(1) FH,FH+DS,FH+OFDM (using 2427MHz~2470.75MHz) : $\leq 3\text{mW/MHz}$ (2) Spread spectrum system,but other than (1): $\leq 10\text{mW/MHz}$ (3) OFDM, but other than (1) When occupied bandwidth $\leq 26\text{MHz}$: $\leq 10\text{mW/MHz}$ When $26\text{MHz} < \text{occupied bandwidth} \leq 40\text{MHz}$: $\leq 5\text{mW/MHz}$ (4) other than (1),(2),(3): $\leq 10\text{mW}$
EIRP Power	(1) For Omni-directional antenna: $\leq 6.91\text{dBm/MHz}$
Antenna Power Tolerance	+20% (Base on manufacturer declare rated power)

6.2.Test Setup



6.3.Test Procedure

- Connect EUT antenna terminal to the power meter with RF cable.
- Set the EUT transmit continuously with maximum output power in all channel hopping mode.
- Through the test software in TS 8897 to control a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level.
- Repeat above procedures until all test mode were measured.
- Record the results in the test report.

6.4.Environment Conditions of Test Site

Temperature	24.6°C	Relative Humidity	59%
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6.5. Test Result

Test Voltage		AC 100V/60Hz						
Test Mode	Conducted Burst Power (dBm)	Conducted Burst Power (mW)	Conducted Antenna Power (mW/MHz)	Declared Rated Power (mW/MHz)	Antenna Power Tolerance (%)	Limit		Result
						Conducted Antenna Power (mW/MHz)	Antenna Power Tolerance (%)	
GFSK	3.53	2.25	0.0315	0.0500	-37.00	≤ 3	+20	Pass
8-DPSK	3.92	2.47	0.0344	0.0500	-31.20	≤ 3	+20	Pass

Note:

1. Conducted Burst Power (mW)= $10^{(\text{Conducted Burst Power (dBm)}/10)}$.
2. Conducted Antenna Power (mW/MHz)= Conducted Burst Power (mW)/Spread Bandwidth (MHz).
3. The result of Spread Bandwidth refer to section 4.
4. Antenna Power Tolerance (%)= $[(\text{Conducted Antenna Power (mW/MHz)} - \text{Declared Rated Power (mW/MHz)}) / \text{Declared Rated Power (mW/MHz)}] \times 100$.

Test Voltage		AC 100V/60Hz			
Test Mode	Conducted Antenna Power (mW/MHz)	Antenna Gain (dBi)	EIRP Power (dBm/MHz)	EIRP Limit (dBm/MHz)	Result
GFSK	0.0315	2.55	-12.46	≤ 6.91	Pass
8-DPSK	0.0344	2.55	-12.08		Pass

Note: EIRP Power (dBm/MHz)= $10 \times \log(\text{Conducted Antenna Power (mW/MHz)}) + \text{Antenna Gain (dBi)}$.

EIRP results of the new antenna

Test Voltage		AC 100V/60Hz			
Test Mode	Conducted Antenna Power (mW/MHz)	Antenna Gain (dBi)	EIRP Power (dBm/MHz)	EIRP Limit (dBm/MHz)	Result
GFSK	0.0315	3.34	-11.67	≤ 6.91	Pass
8-DPSK	0.0344	3.34	-11.29		Pass

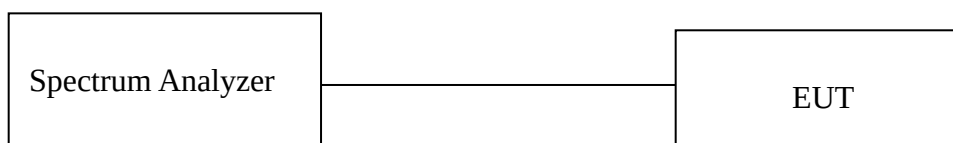
Note: EIRP Power (dBm/MHz)= $10 \times \log(\text{Conducted Antenna Power (mW/MHz)}) + \text{Antenna Gain (dBi)}$.

7.DWELL TIME

7.1.Limit

Item	Limits
Dwell Time	FH , FH+DS , FH+OFDM : 0.4 sec or lees (The total sum of holding time at arbitrary frequencies within the time multiplied 0.4 sec by the spreading rate)

7.2.Test Setup



7.3.Spectrum Analyzer Setting

Duty Cycle Measurement	
Spectrum Parameters	Setting
RBW	1MHz
VBW	1MHz
Span	Zero
Sweep Time	Hopping Repetition Period
Sweep Mode	Single sweep
Detector	Peak
Trigger condition	Video Trigger

Spread Bandwidth Measurement	
Spectrum Parameters	Setting
RBW	Less than 3% of the acceptable value(Limit)
VBW	Comparable to RBW
Span	2-3.5 times the acceptable value
Sweep Time	Minimum amount of time to ensure measurement accuracy (in the case of burst waves, 1 burst per sample)
Detector	Peak
Trace Mode	Max Hold

7.4. Test Procedure

For Duty Cycle Measurement :

- a. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- b. Spectrum analyzer setting parameters in accordance with section 7.3.
- c. Set the EUT transmit continuously with maximum output power in all channel hopping mode.
- d. Adjust sweep time on the spectrum analyzer to capture at least one period of the pulse train of the EUT.
- a. Allow trace to stabilize, use the marker-delta function to measure the on time and off time of the signal.
- e. Repeat above procedures until all packet types and test mode were measured.
- f. Record the results in the test report.

For Spread Bandwidth Measurement

- a. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- b. Spectrum analyzer setting parameters in accordance with section 7.3.
- c. Set the EUT transmit continuously with maximum output power in all channel hopping mode.
- d. Allow trace to stabilize, use the 90% power bandwidth function to measure spread bandwidth.
- e. Repeat above procedures until all packet types and test mode were measured.
- f. Record the results in the test report.

7.5. Environment Conditions of Test Site

Temperature	24.6°C	Relative Humidity	59%
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7.6. Test Result

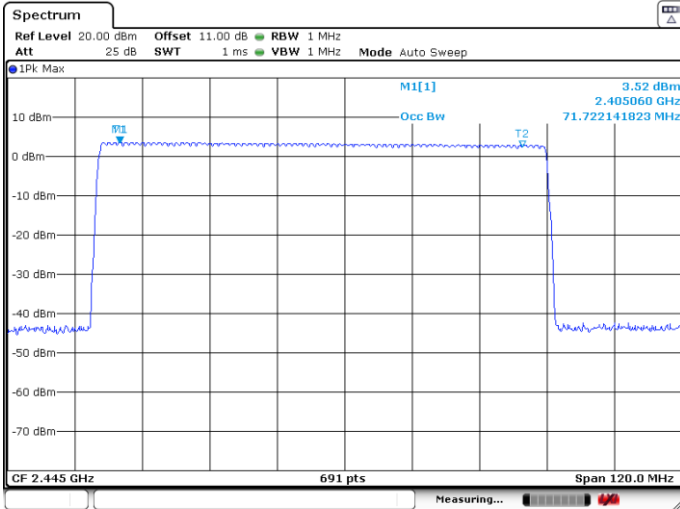
Test Voltage	AC 100V/60Hz							
Test Mode	Spread Bandwidth (MHz)	Spreading Rate	On Time (ms)	Total Time (ms)	Duty Cycle (%)	Dwell Time (s)	Limit (s)	Result
GFSK(DH1)	71.72	71.72	0.4130	1.2899	32.0221	0.1163	≤ 0.4	Pass
GFSK(DH3)	71.72	71.72	1.6957	2.5362	66.8599	0.2428		Pass
GFSK(DH5)	71.55	71.55	2.9855	3.8551	77.4429	0.2806		Pass
8-DPSK(DH1)	71.72	23.91	0.4203	1.2826	32.7683	0.0397		Pass
8-DPSK(DH3)	71.72	23.91	1.6812	2.5507	65.9113	0.0798		Pass
8-DPSK(DH5)	71.72	23.91	2.9565	3.7971	77.8621	0.0943		Pass

Note:

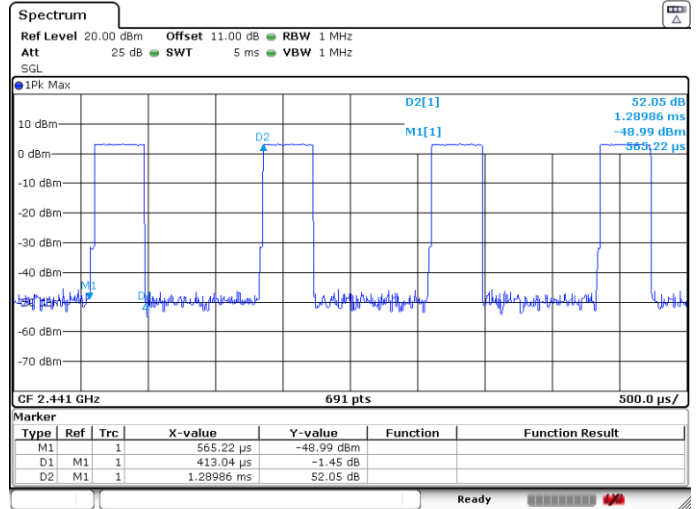
1. For BT GFSK, the symbol rate were 1Mbits/s.
2. For BT 8-DPSK, the symbol rate were 3Mbits/s.
3. Spreading Rate=Spread Bandwidth/ transmission rate.
4. Duty Cycle(%)=(On Time/ Total Time)×100.
5. Dwell Time(s)=(Spreading Rate/79)×Duty Cycle(%)×0.4s.

GFSK(DH1)

Spread Bandwidth

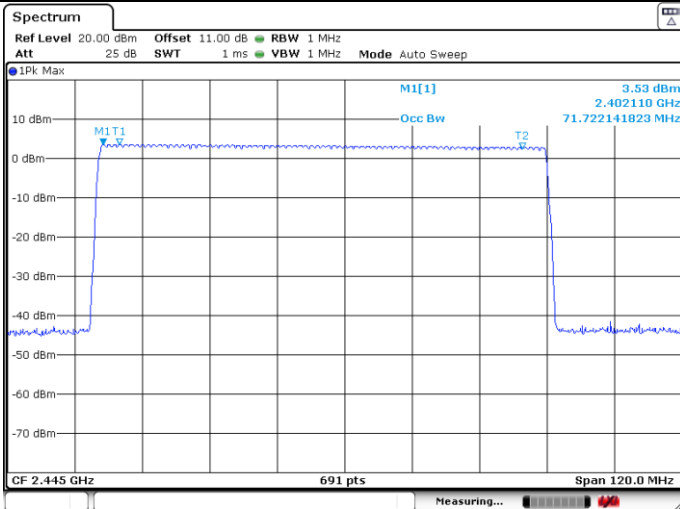


Duty Cycle

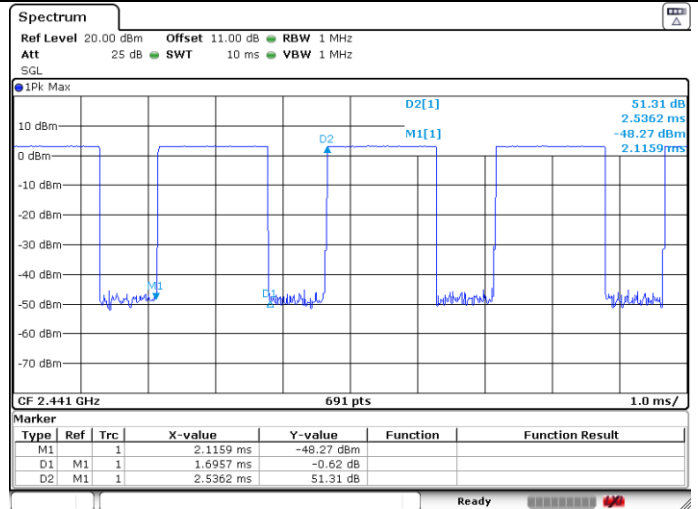


GFSK(DH3)

Spread Bandwidth

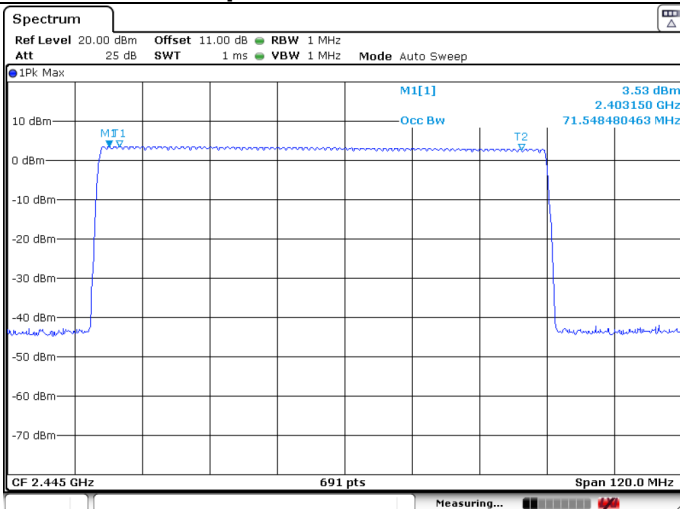


Duty Cycle

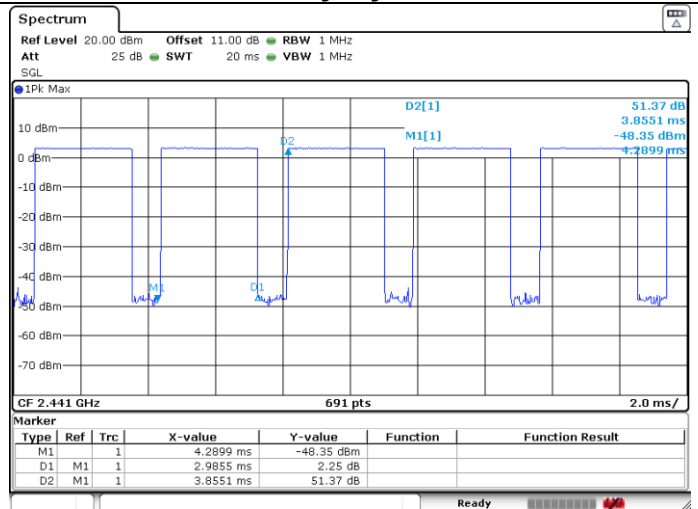


GFSK(DH5)

Spread Bandwidth

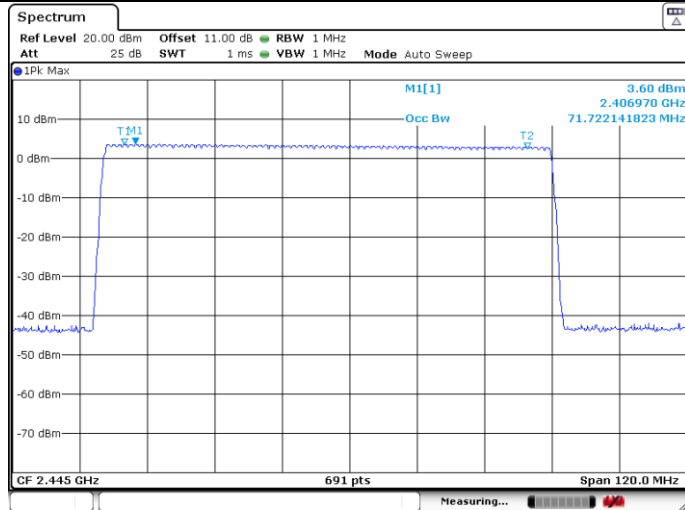


Duty Cycle

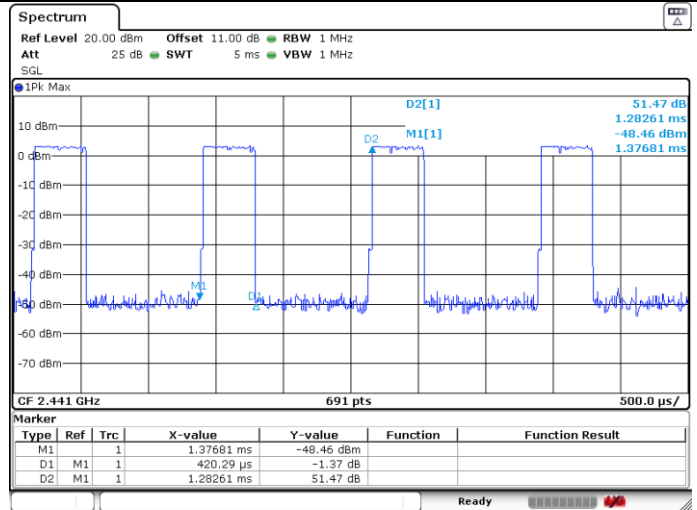


8-DPSK(DH1)

Spread Bandwidth

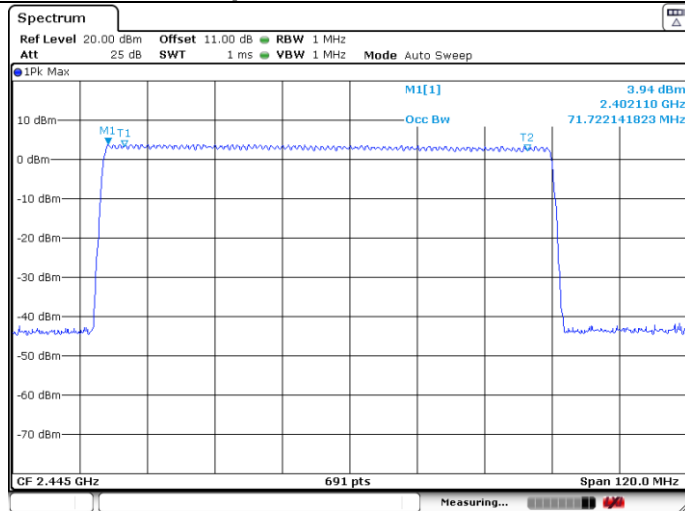


Duty Cycle

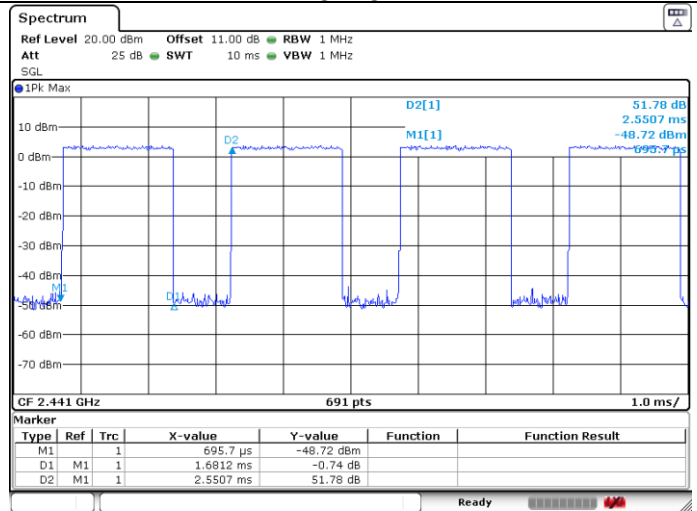


8-DPSK (DH3)

Spread Bandwidth

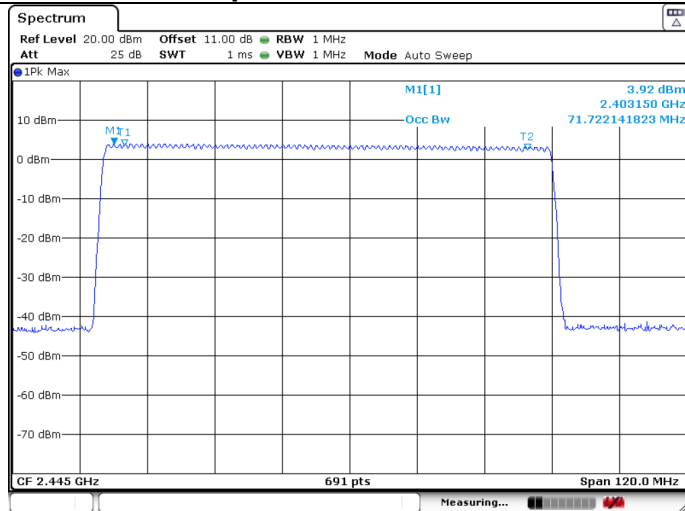


Duty Cycle

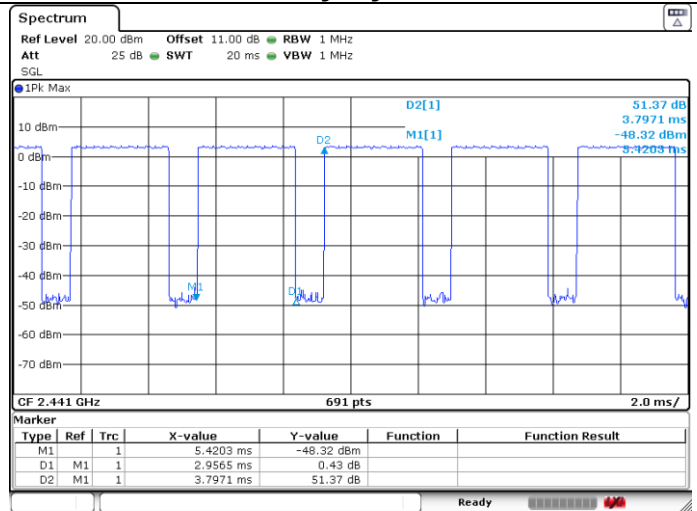


8-DPSK (DH5)

Spread Bandwidth



Duty Cycle

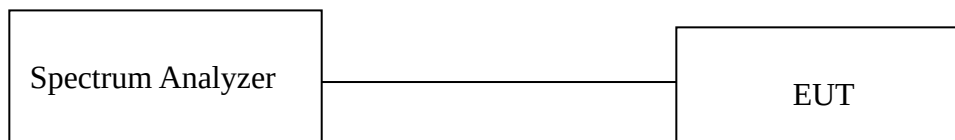


8. SECONDARY RADIATED EMISSIONS

8.1. Limit

Item	Limits
Secondary Radiated Emissions	Lower than 1GHz : ≤ 4 nW(-54dBm)
	1GHz or higher : ≤ 20 nW(-47dBm)

8.2. Test Setup



8.3. Spectrum Analyzer Setting

Spectrum Parameters	Setting
RBW	100KHz(Below 1GHz)/1MHz(Above 1GHz)
VBW	100KHz(Below 1GHz)/1MHz(Above 1GHz)
Sweep Time	Minimum amount of time to ensure measurement accuracy
Sweep Mode	Single sweep
Detector	Positive peak
Trace Mode	Max Hold

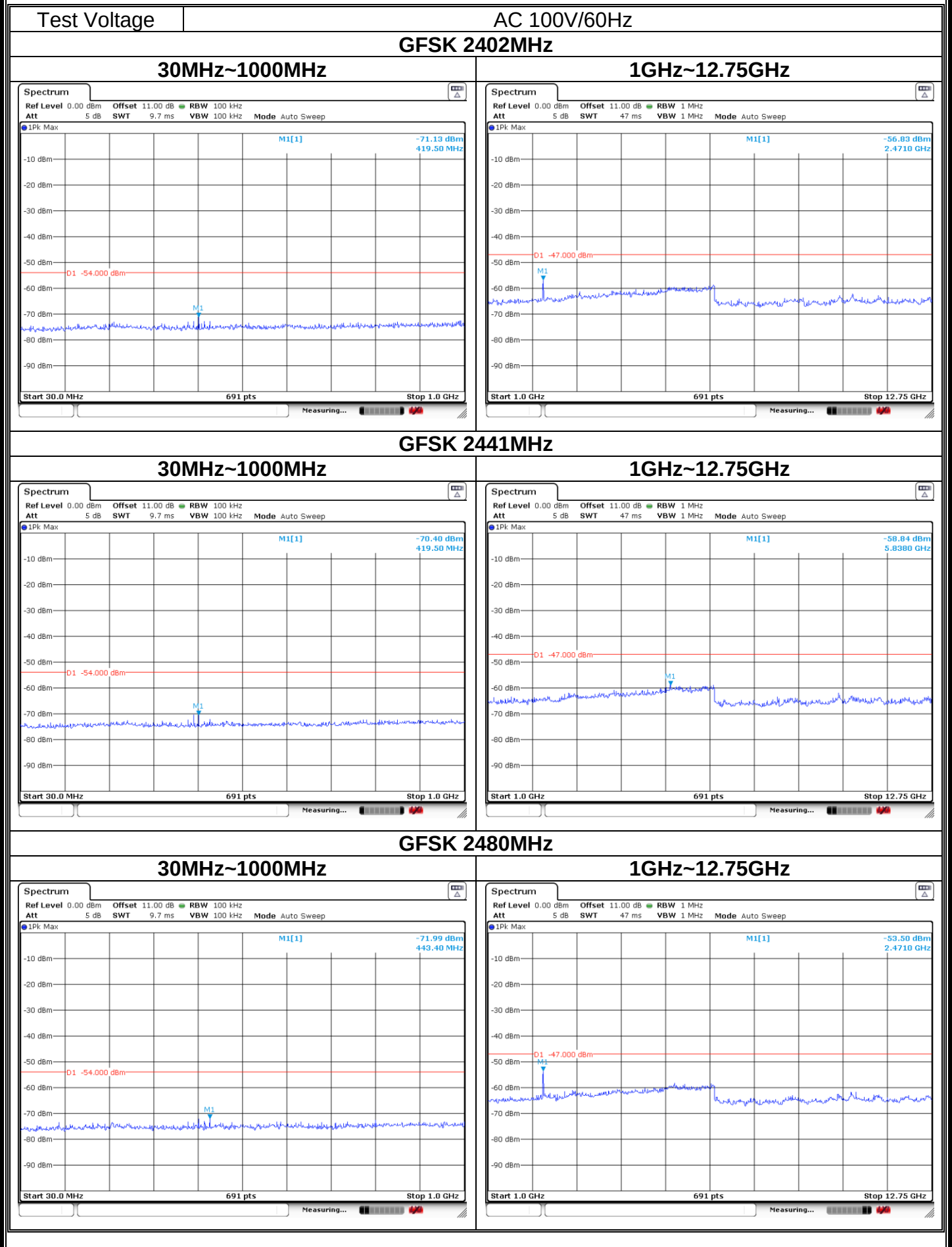
8.4. Test Procedure

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with section 8.3.
- Set the EUT transmit to receive mode.
- Allow trace to stabilize, use the marker function to mark the highest emission level.
- Repeat above procedures until all channels were measured.
- Record the results in the test report.

8.5. Environment Conditions of Test Site

Temperature	24.6°C	Relative Humidity	59%
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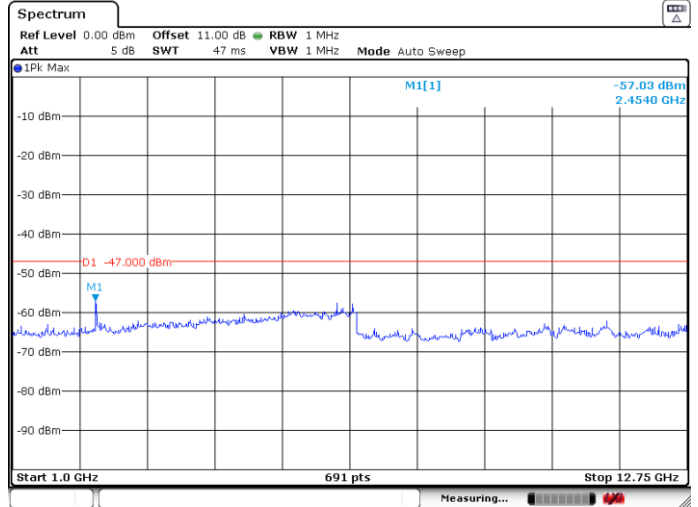
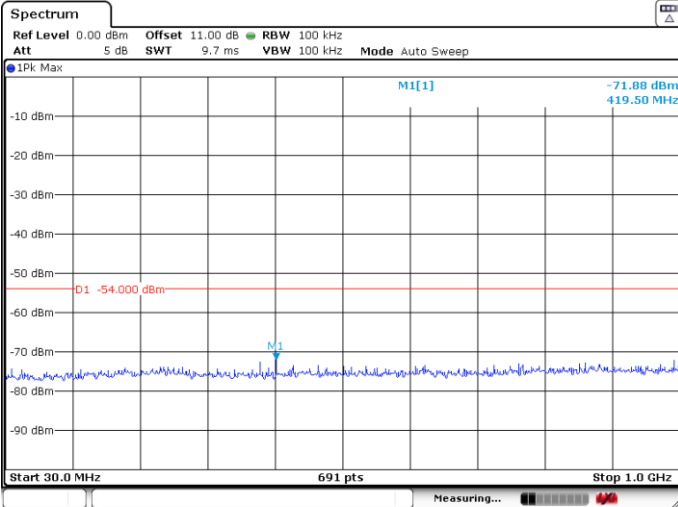
8.6. Test Result



8-DPSK 2402MHz

30MHz~1000MHz

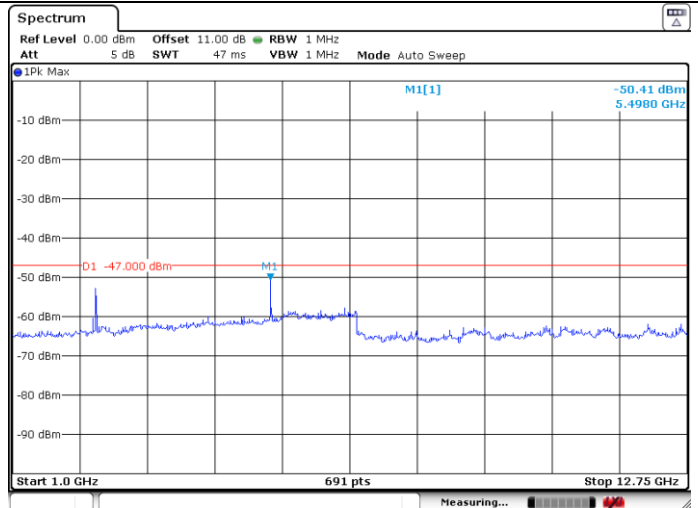
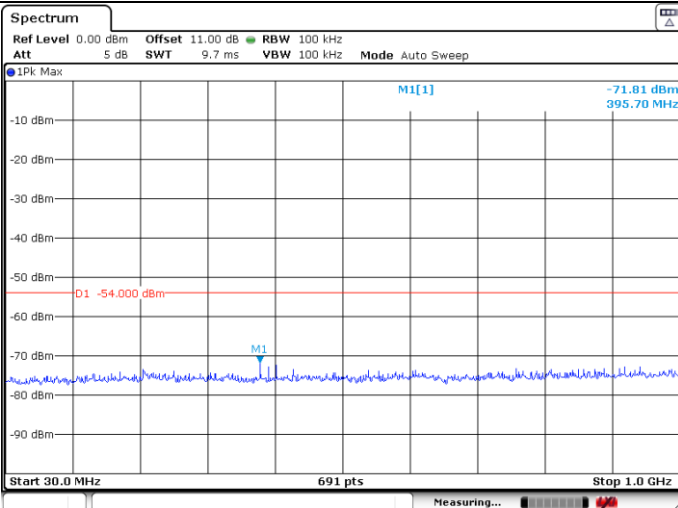
1GHz~12.75GHz



8-DPSK 2441MHz

30MHz~1000MHz

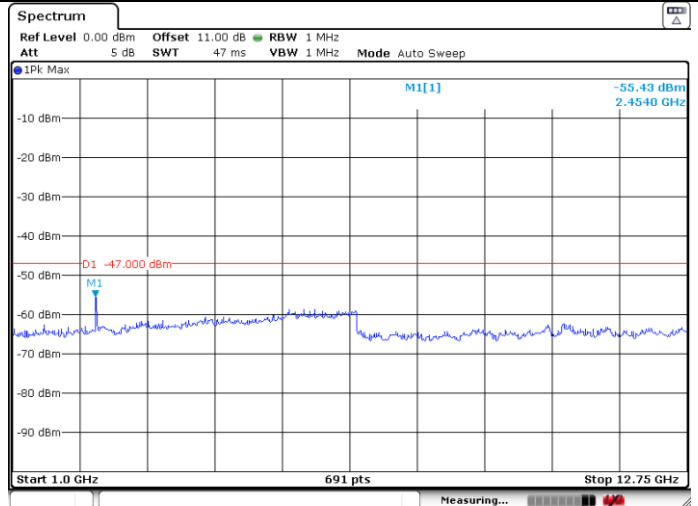
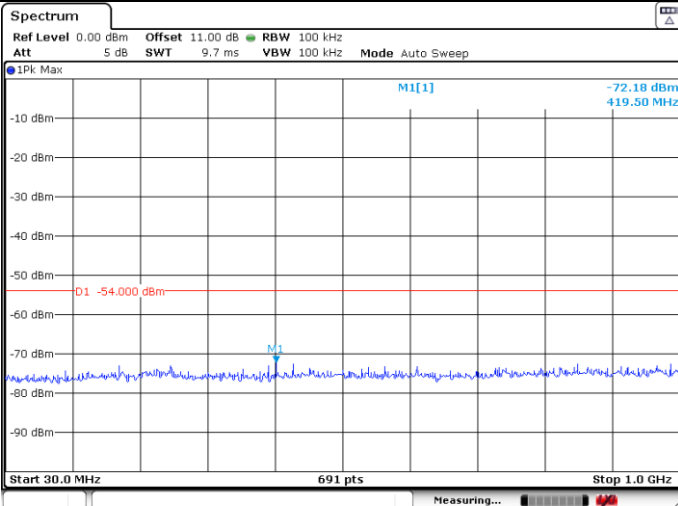
1GHz~12.75GHz



8-DPSK 2480MHz

30MHz~1000MHz

1GHz~12.75GHz



9.INTERFERENCE PREVENTION FUNCTION

9.1.Limit

EUT shall have a function to transmit or receive identification code automatically, and the length of identification code ≥ 48 bits

9.2.Test Setup



9.3.Test Procedure

- Open the BT function of EUT .
- Peripheral equipment and EUT are connected through BT function.
- Use special software on peripheral devices to get the MAC address of EUT.
- Record MAC address.

9.4.Environment Conditions of Test Site

Temperature	25.6℃	Relative Humidity	50%	Test Voltage	AC 100V/60Hz
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9.5. Test Result

Identification Code	Length(bits)	Limit(bits)	Result
F4:4E:FC:00:22:4A	48	≥48	Pass

Paired Devices
DM-40D-BT F4:4E:FC:00:22:4A

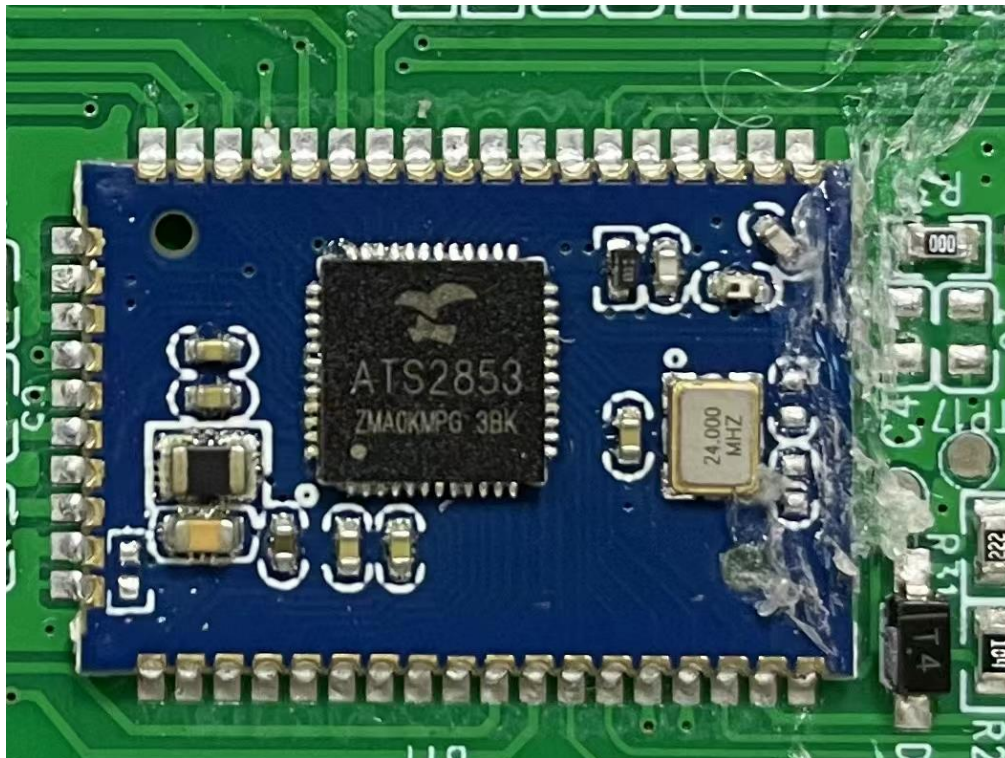
10. CONSTRUCTION PROTECTION CONFIRMATION METHOD

10.1. Limit

The high-frequency section and modulation section (except for the antenna system) shall not be capable of being opened easily.

10.2. Test Result

RF and Modulation parts are mounted on PCB with surface mount technology.



11. TEST SETUP PHOTO

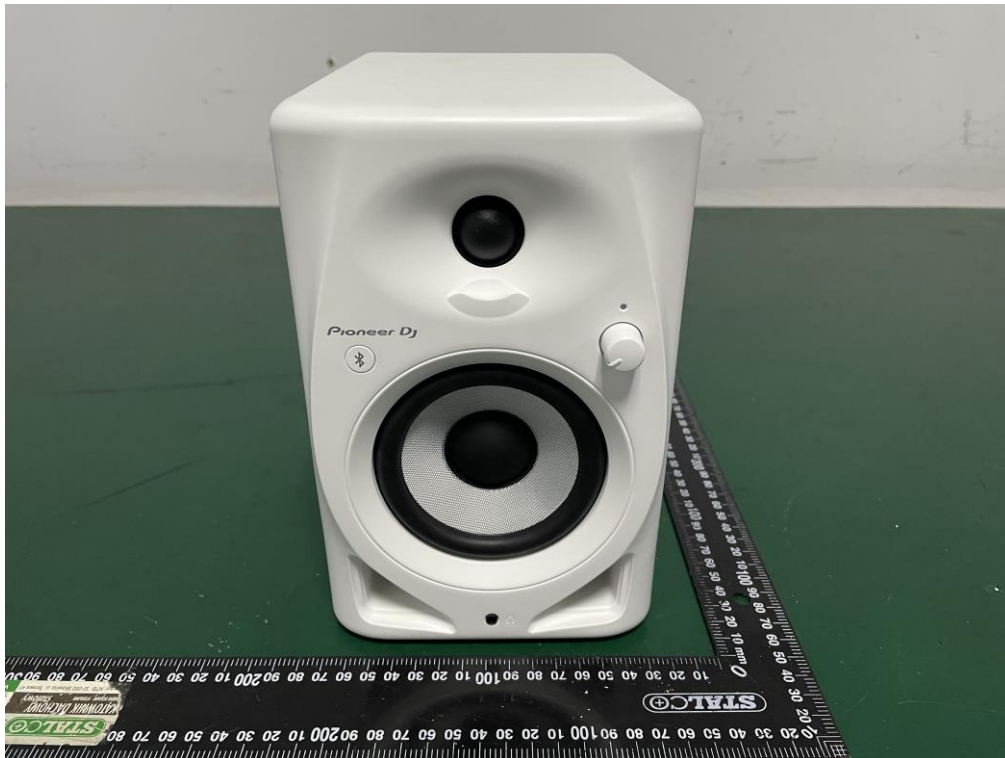


12. EUT PHOTO

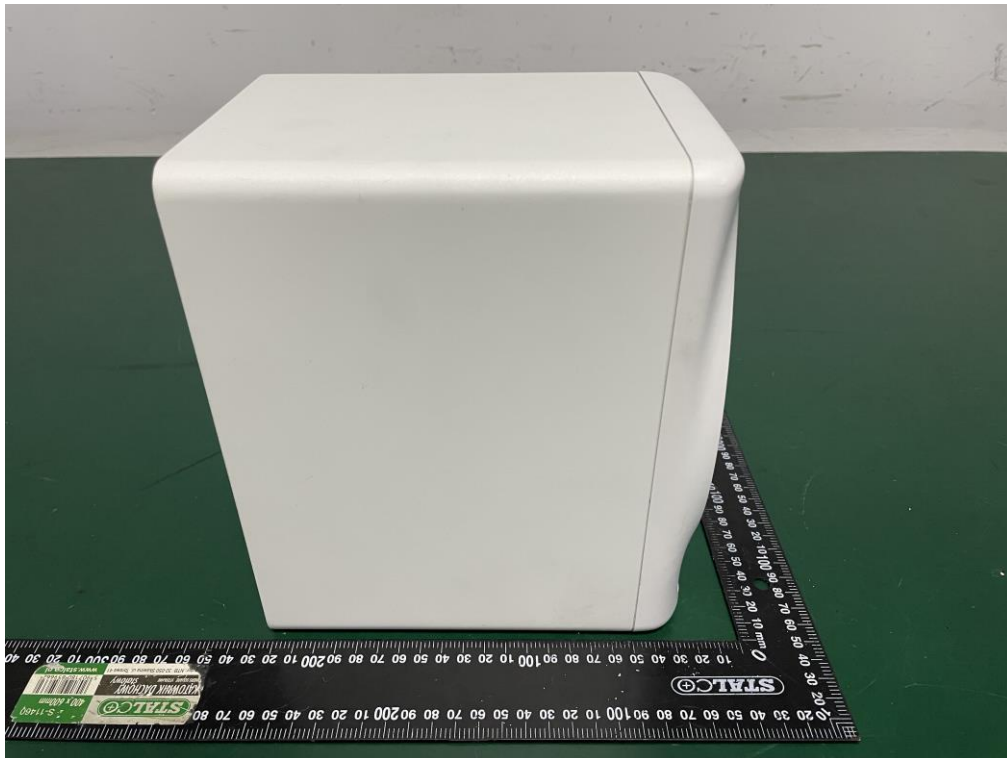
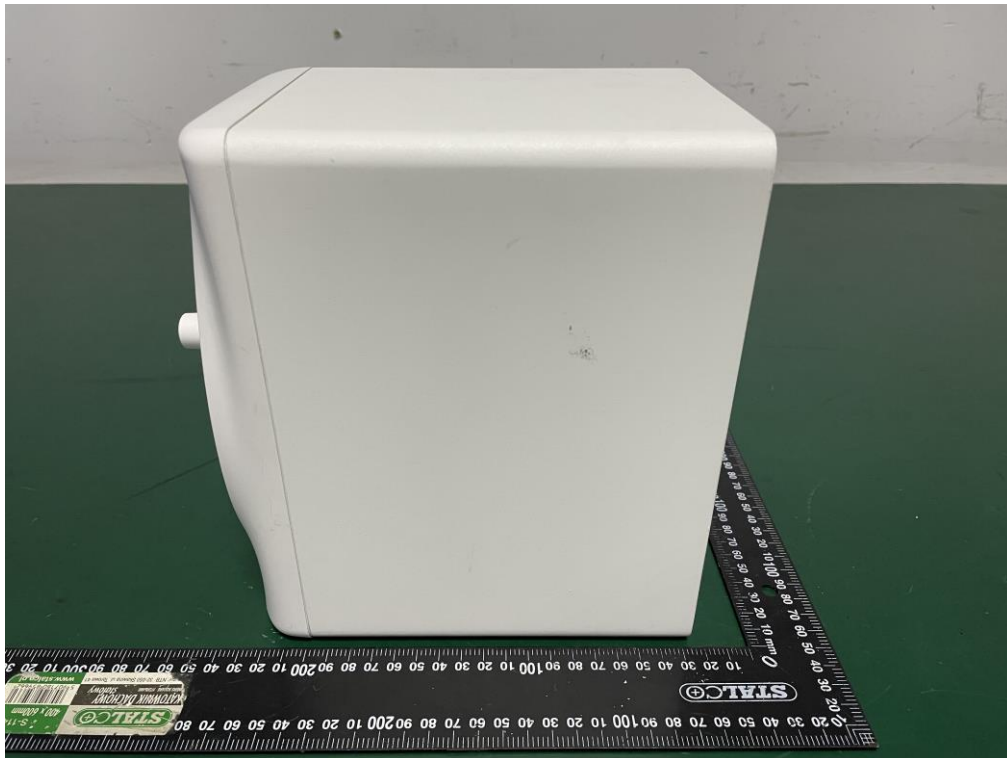
External Photos
M/N: DM-40D-BT-W



External Photos
M/N: DM-40D-BT-W



External Photos
M/N: DM-40D-BT-W



External Photos
M/N: DM-40D-BT-W



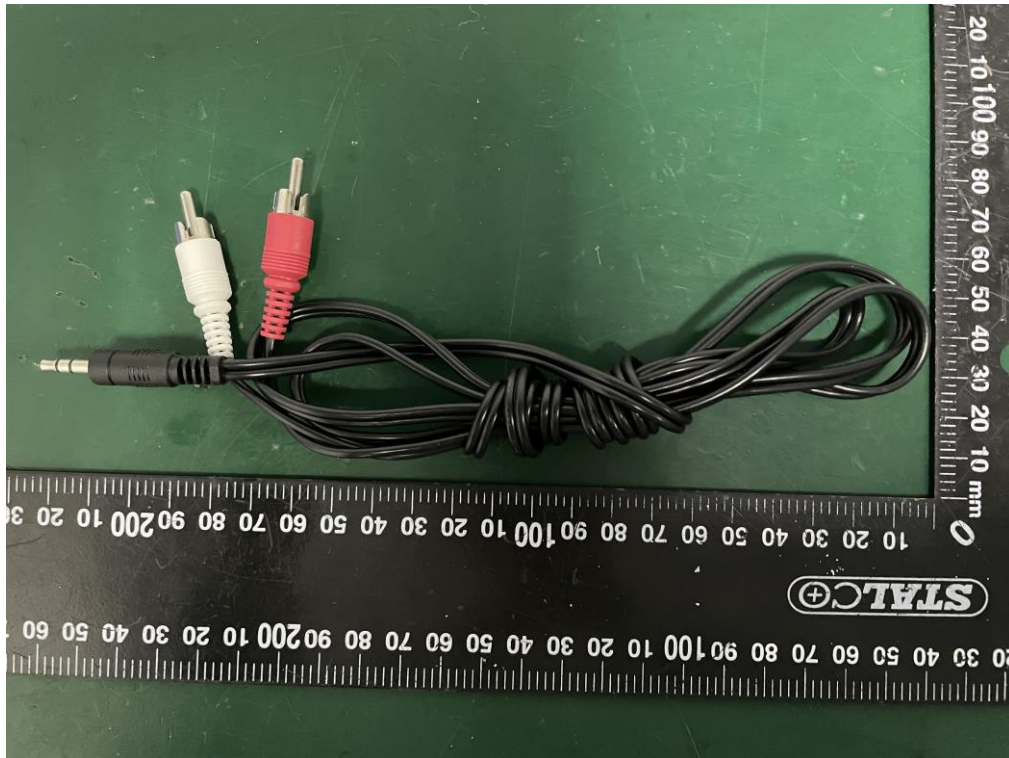
External Photos
M/N: DM-40D-BT-W



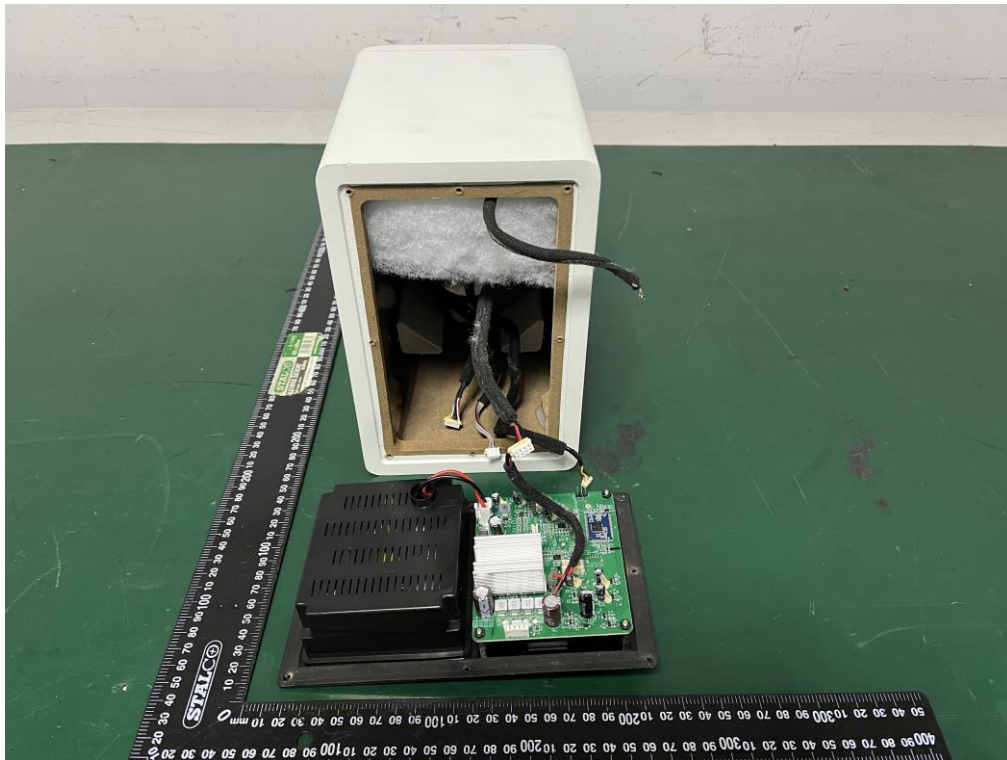
M/N: DM-40D-BT-W



External Photos
M/N: DM-40D-BT-W



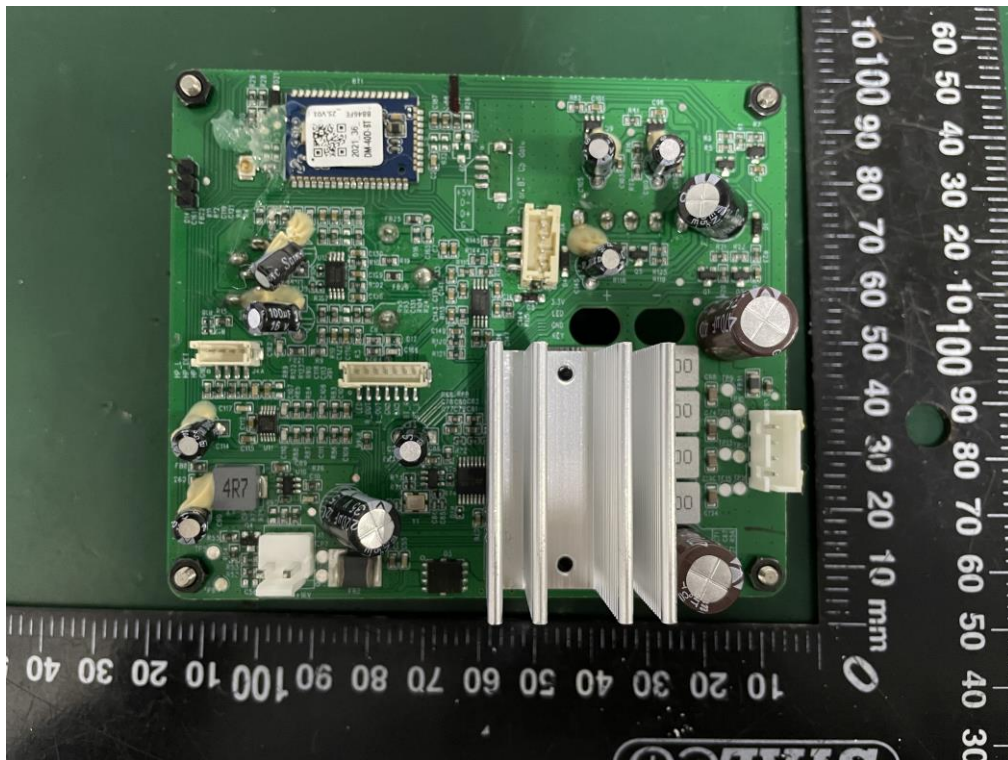
Internal Photos
M/N: DM-40D-BT-W



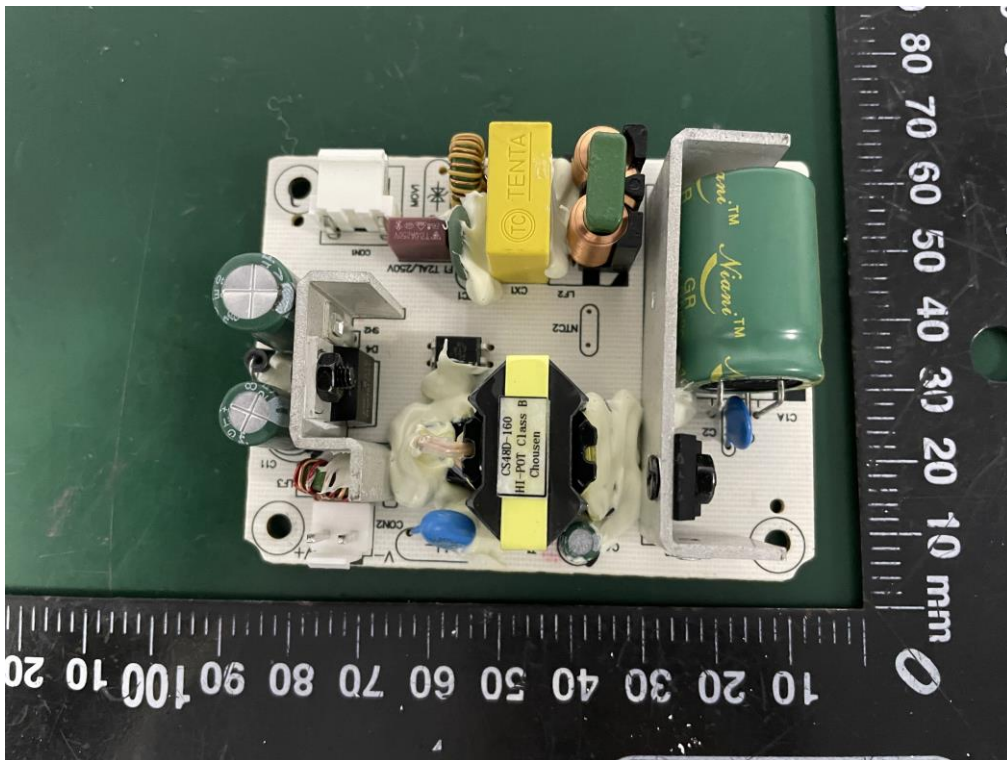
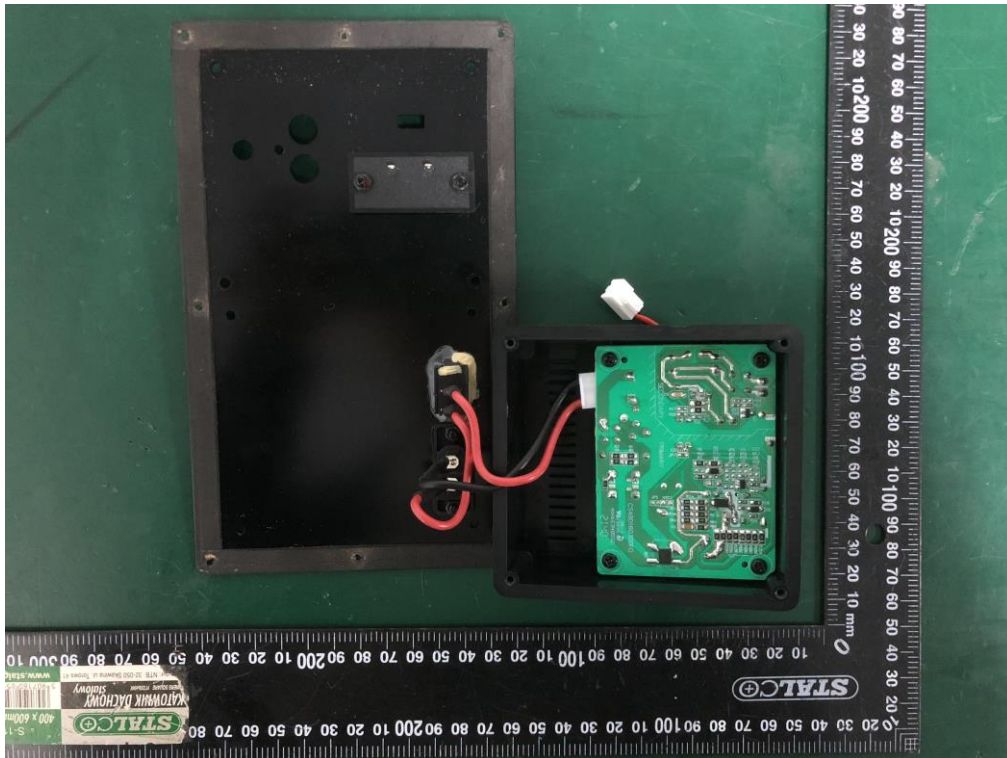
Internal Photos
M/N: DM-40D-BT-W



Internal Photos M/N: DM-40D-BT-W

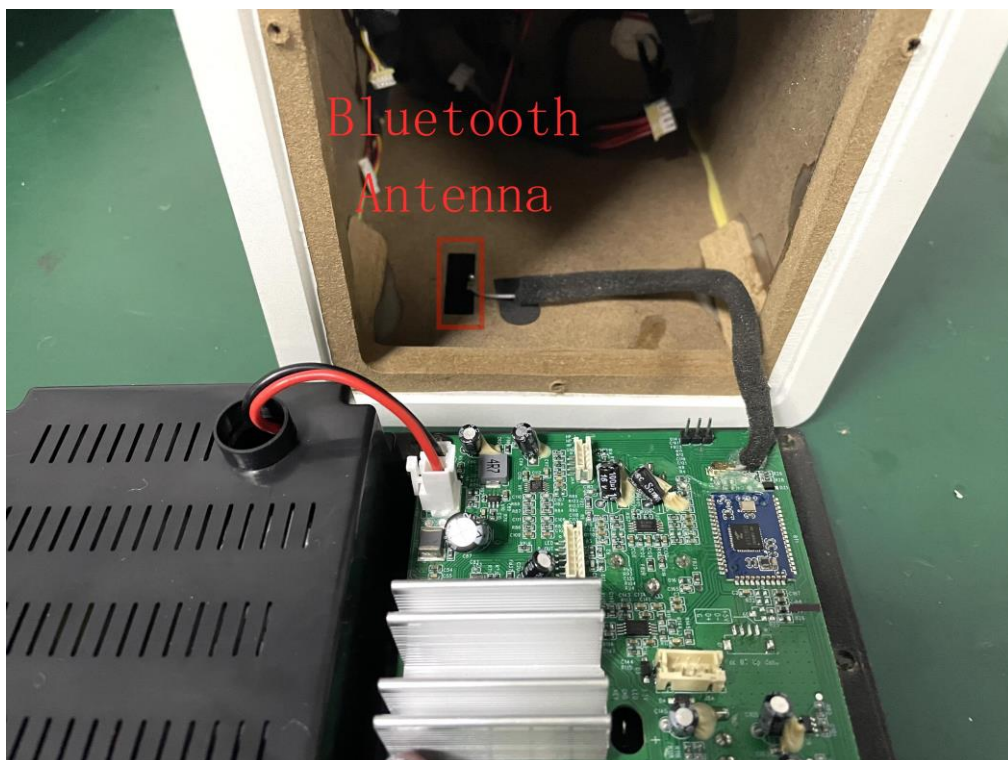
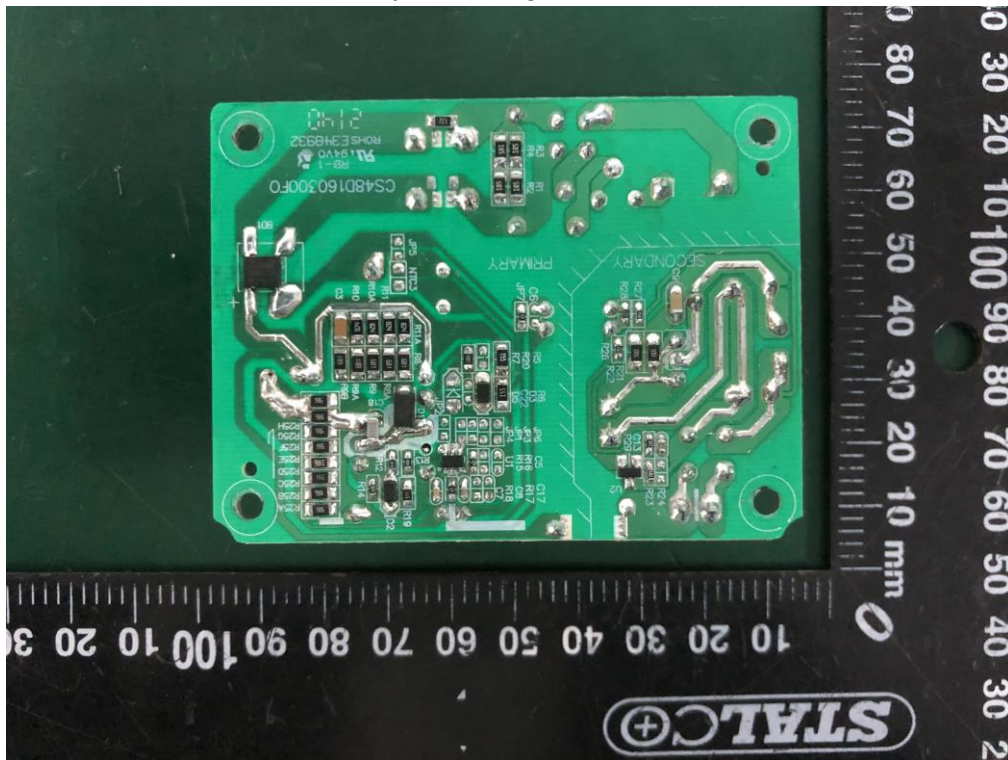


Internal Photos M/N: DM-40D-BT-W

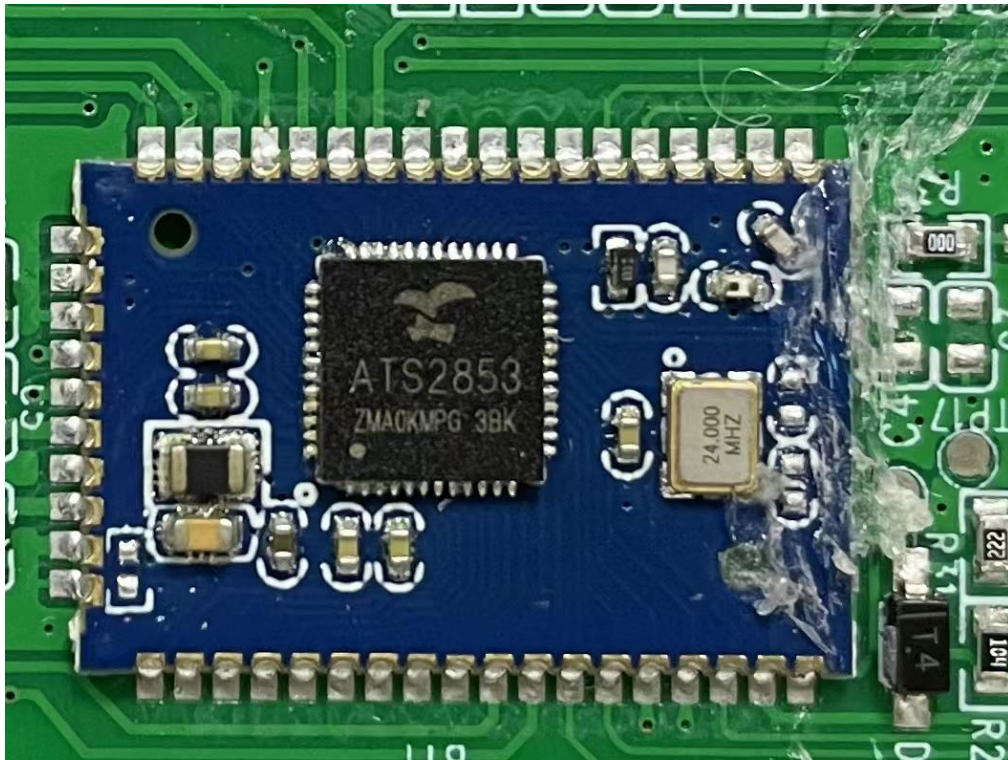


Internal Photos

M/N: DM-40D-BT-W



Internal Photos
M/N: DM-40D-BT-W



New photographs

External Photos

M/N: DM-40D-BT

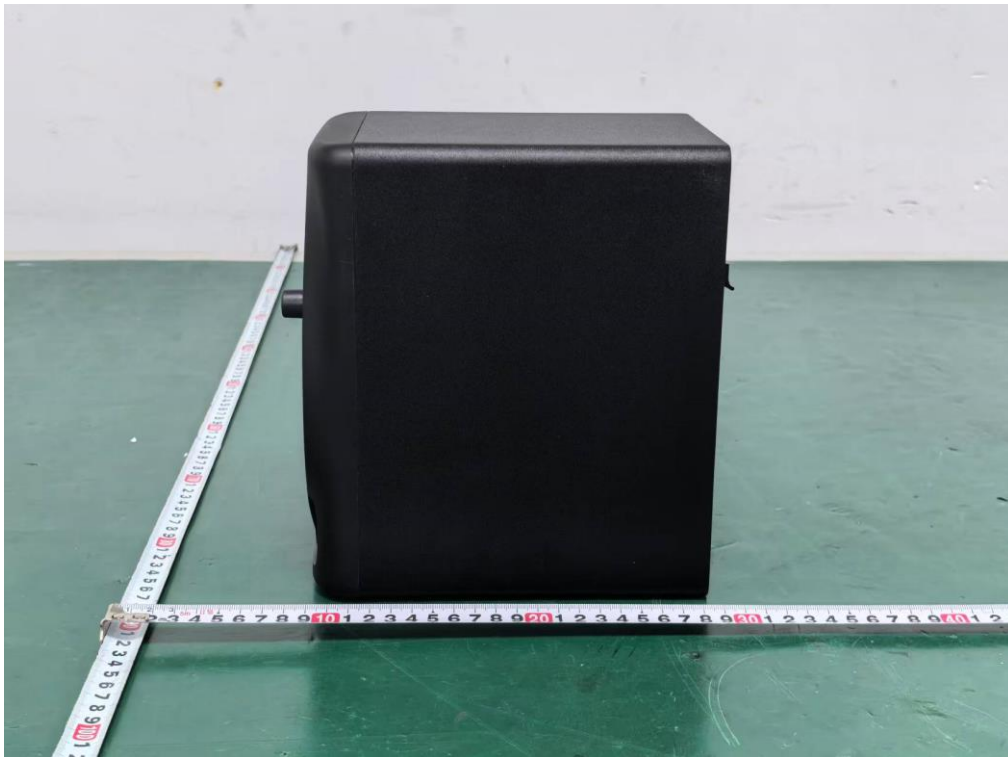
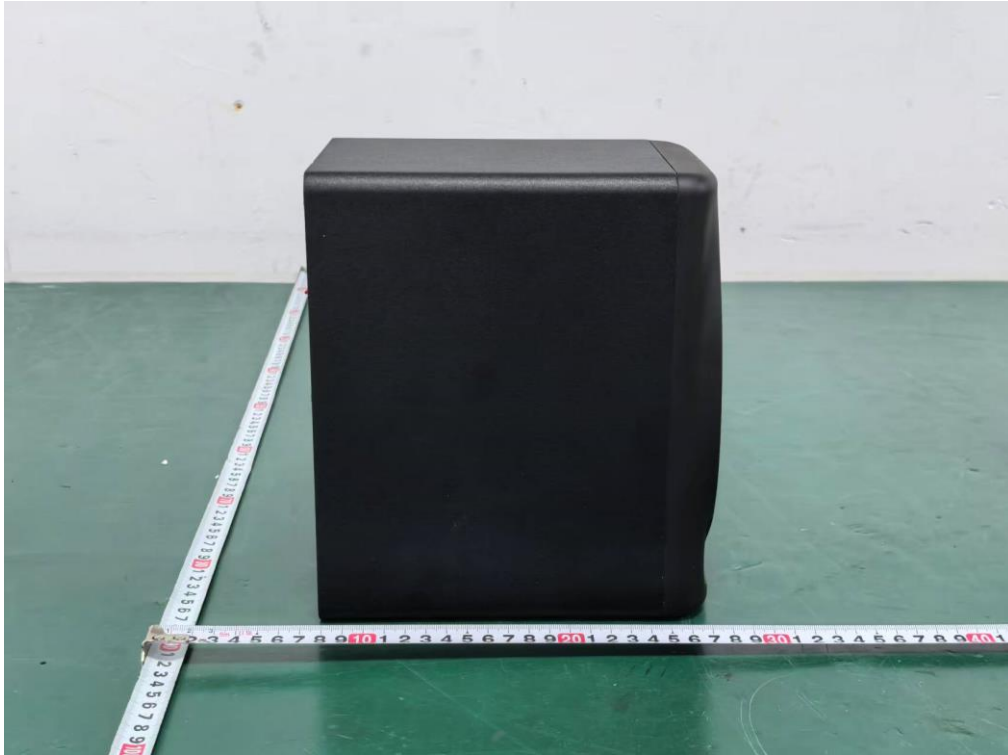


External Photos

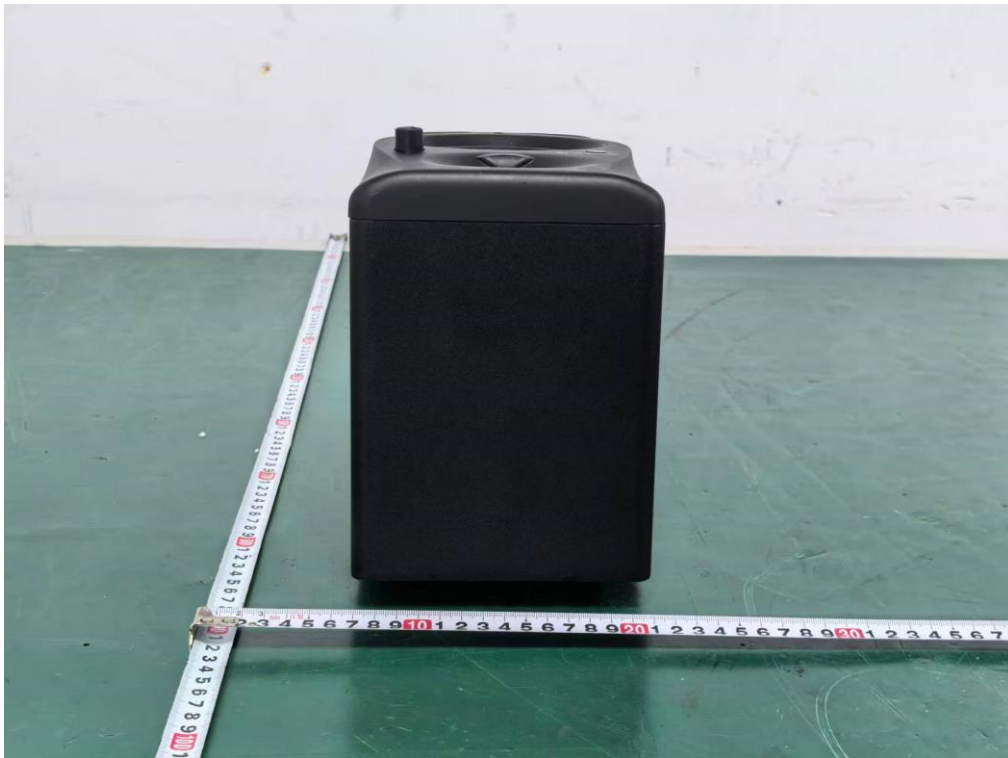
M/N: DM-40D-BT



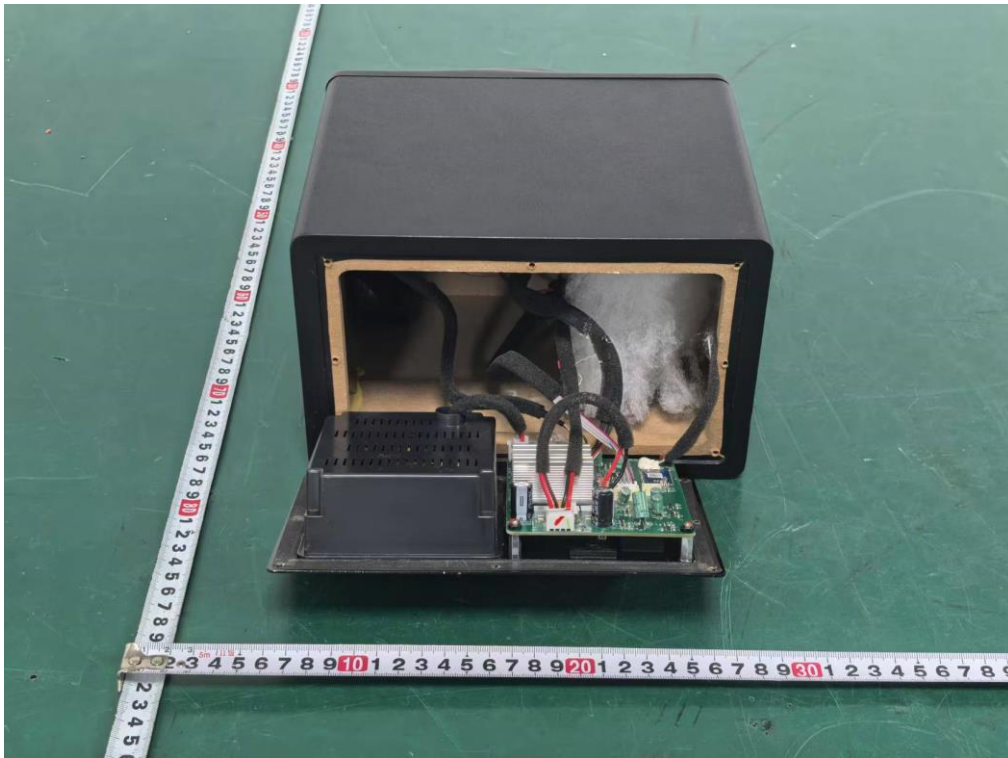
External Photos
M/N: DM-40D-BT



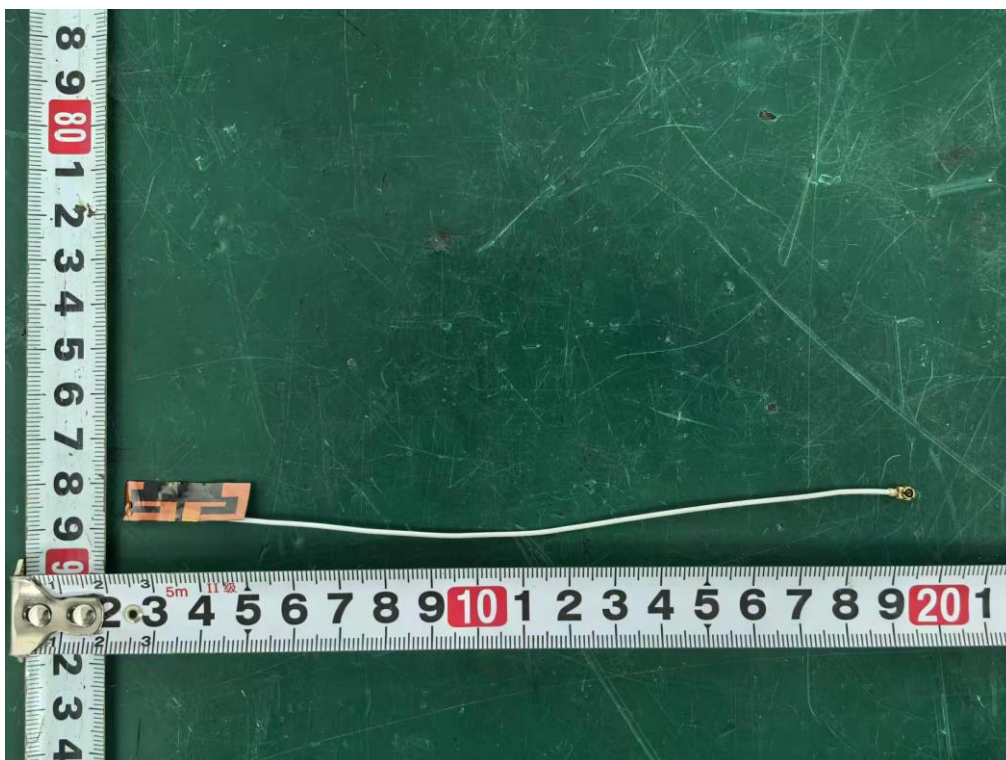
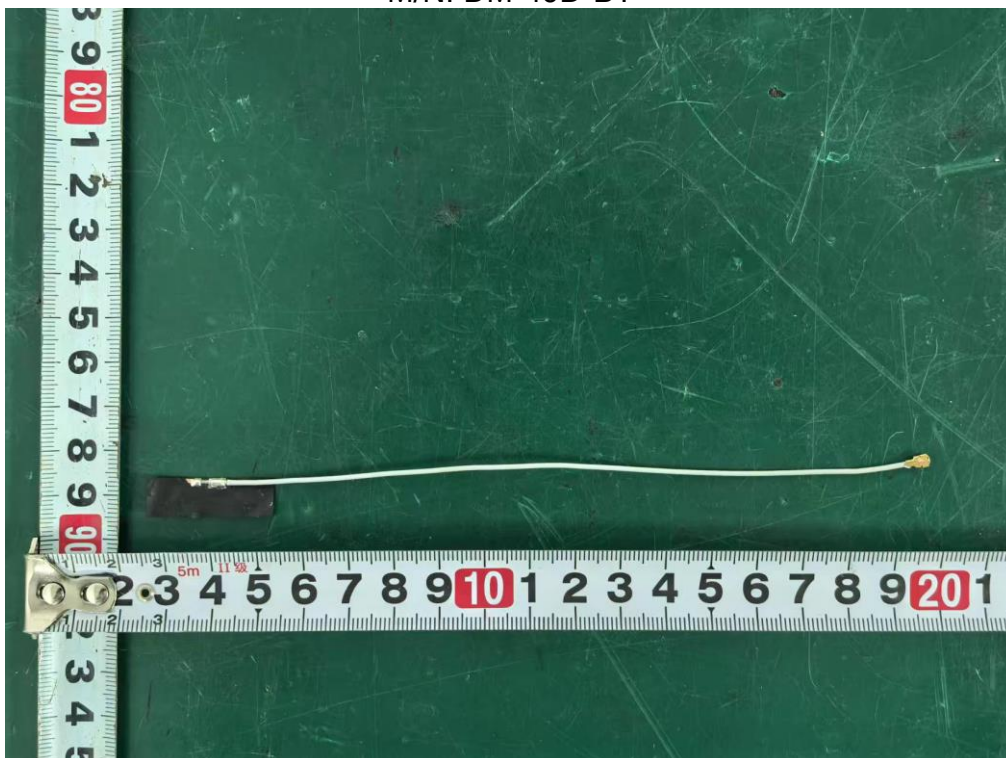
External Photos
M/N: DM-40D-BT



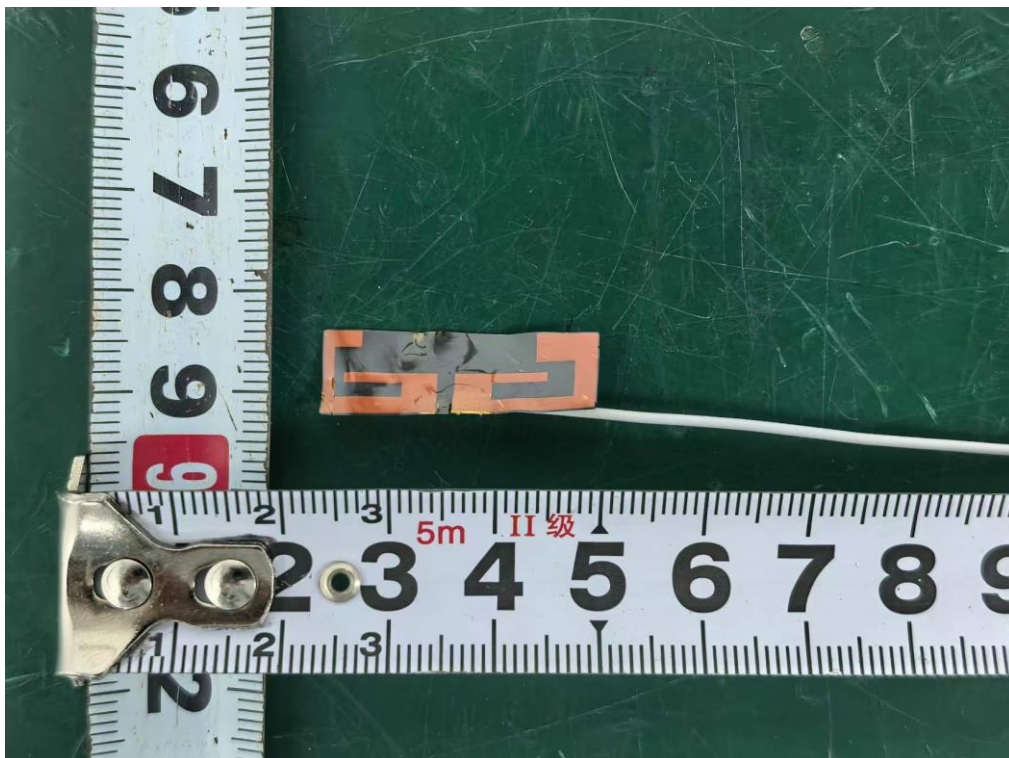
Internal Photos
M/N: DM-40D-BT



Internal Photos
M/N: DM-40D-BT



Internal Photos
M/N: DM-40D-BT



End of Test Report