

RADIO PERFORMANCE TEST REPORT

Test Report No. : OT-261-RWD-007

Reception No. : 2512004243

Applicant : TELICA Inc.

Address : Tower A-411, 40 Imi-ro, Uiwang-Si, Gyeonggi-do, 16006, Korea

Manufacturer : TELICA Inc.

Address : Tower A-411, 40 Imi-ro, Uiwang-Si, Gyeonggi-do, 16006, Korea

Type of Equipment : ESL 2.7inch Tag

Model Name : TE-27Y-R2N

Multiple Model Name : TE-27M-R2N

Serial Part Number : N/A

Total page of Report : 15 pages (including this page)

Date of Incoming : December 10, 2025

Date of issue : January 09, 2026

SUMMARY

The equipment complies with the standard; **Specified Low Power Radio Equipment Article 2 Paragraph 1 Item (19).**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

This test report is not associated with the accreditation granted by the Korean Laboratory Accreditation Scheme (KOLAS).



Tested by
Myeong-Hwa, Jang / Deputy Chief Engineer
ONETECH Corp.



Reviewed by
Tae-Ho, Kim / Chief Engineer
ONETECH Corp.



Approved by
Jae-Ho, Lee / Director
ONETECH Corp.

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-261-RWD-007	January 09, 2026	Initial Release	All

1. APPLICANT AND MANUFACTURER INFORMATION

- . Applicant : TELICA Inc.
- . Address : Tower A-411, 40 Imi-ro, Uiwang-Si, Gyeonggi-do, 16006, Korea
- . Manufacturer : TELICA Inc.
- . Address : Tower A-411, 40 Imi-ro, Uiwang-Si, Gyeonggi-do, 16006, Korea
- . Factory : SEHYUN TECH VN CO., LTD.
- . Address : Lot C1-2, Que Vo Extension Industrial Zone, Phuong Lieu Commune, Que Vo District, Bac Ninh, Vietnam

2. GENERAL INFORMATION

2.1 Test standards and results

Requirement	Result
Frequency Tolerance	Pass
Occupied Bandwidth	Pass
Antenna Power & Antenna Power Tolerance	Pass
E.I.R.P	Pass
Transmitter Spurious Emissions	Pass
Collateral Emission	Pass
Interference prevention function	Pass

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Purpose of the test

To determine whether the equipment under test fulfills the RF requirements of the standards stated in section 2.1.

2.4 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea.

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-20122/ C-14617/ G-10666/ T-11842

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

3. EUT (Equipment Under Test)

3.1 Identification of the EUT

- Equipment : ESL 2.7inch Tag
- Model Name : TE-27Y-R2N
- Brand Name : Crebee
- Serial number : N/A
- Manufacturer : TELICA Inc.

3.2 Product Description

The TELICA Inc., Model TE-27Y-R2N (referred to as the EUT in this report) is a ESL 2.7inch Tag. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	ESL 2.7inch Tag
Temperature Range	0 °C ~ +40 °C
OPERATING FREQUENCY	2 405 MHz ~ 2 480 MHz
MODULATION TYPE	DSSS
RF OUTPUT POWER	5 mW/MHz
ANTENNA TYPE	PCB Pattern Antenna
ANTENNA GAIN	2.00 dBi
RATED SUPPLY VOLTAGE	DC 3.00 V
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	32 MHz

3.3 Alternative type(s)/model(s); also covered by this test report.

- . The following lists consist of the added model and their differences.

Model Name	Differences	Tested
TE-27Y-R2N	Basic Model (4-Color)	☒
TE-27M-R2N	The color of the EPD that makes up the product is different (Mono)	☐

Note: 1. Applicant consigns only basic model to test. Therefore this test report just guarantees the units, which have been tested.

2. The Applicant/manufacture is responsible for the compliance of all variants.

3.4 Mode of operation during the test

-. Channel List

Channel	Frequency[MHz]	Channel	Frequency[MHz]	Channel	Frequency[MHz]
11	2 405.00	17	2 435.00	23	2 465.00
12	2 410.00	18	2 440.00	24	2 470.00
13	2 415.00	19	2 445.00	25	2 475.00
14	2 420.00	20	2 450.00	26	2 480.00
15	2 425.00	21	2 455.00		
16	2 430.00	22	2 460.00		

4. EUT MODIFICATIONS

-. None

5. Frequency Tolerance

5.1 Operating environment

Temperature : 25 °C
Relative humidity : 51 % R.H.

5.2 Test Setup

The EUT was operated in CW carrier mode (unmodulated). The frequency was measured by the use of the frequency counter capability of a CW Microwave Frequency Counter.

5.3 Measurement uncertainty

The uncertainty for Frequency Tolerance is $\pm 13\,205.68$ Hz.

5.4 Test Method

Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

5.5 Test Date

December 10, 2025 ~ December 11, 2025

5.6 Limit

Test Case	Limit (ppm)
Frequency Tolerance	± 50.00

5.7 Test Results

Please refer to Appendix A.

6. Occupied Bandwidth

6.1 Operating environment

Temperature : 25 °C
Relative humidity : 51 % R.H.

6.2 Test Setup

The EUT was operated in continuous transmit mode (modulated). For occupied bandwidth measurement the internal occupied bandwidth measurement capability of Spectrum Analyzer was used. The bandwidth for 99 % power was measured.

6.3 Measurement uncertainty

The uncertainty for Occupied Channel Bandwidth is $\pm 5\,929.54$ Hz.

6.4 Test Method

Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

6.5 Test Date

December 10, 2025 ~ December 11, 2025

6.6 Limit

Test Case	Limit (MHz)
Occupied Bandwidth	≤ 26.00

6.7 Test Results

Please refer to Appendix A.

7. Antenna Power & Antenna Power Tolerance & E.I.R.P

7.1 Operating environment

Temperature : 25 °C
Relative humidity : 51 % R.H.

7.2 Test Setup

The EUT was operated in continuous transmit mode (modulated). The power meter was connected to IF output.
The external attenuation was corrected by the power meter's correction capability.

7.3 Measurement uncertainty

The uncertainty for Antenna Power is ± 1.22 dB.

7.4 Test Method

Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

7.5 Test Date

December 10, 2025 ~ December 11, 2025

7.6 Limit

Test Case	Limit	
Antenna Power & Antenna Power Tolerance & E.I.R.P	Antenna Power	≤ 10 mW/MHz
	Antenna Power Tolerance	+20 %
	E.I.R.P	≤ 12.14 dBm/MHz

7.7 Test Results

Please refer to Appendix A.

8. Transmitter Spurious Emissions

8.1 Operating environment

Temperature : 25 °C
Relative humidity : 51 % R.H.

8.2 Test Setup

Measurement frequency range acc. to Ordinance Regulation Radio Equipment (2008-04) from 30 MHz to 5 times the carrier frequency; measurement performed in the range 30 MHz to 12.5 GHz.

The EUT was operated in continuous transmit mode (modulated).

Cable losses and external attenuators were regarded by the use of a transducer factor.

8.3 Measurement uncertainty

Conducted spurious emissions of transmitter, 30 MHz ~ 40 GHz : ± 1.40 dB

8.4 Test Method

Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

8.5 Test Date

December 10, 2025 ~ December 11, 2025

8.6 Limit

Test Case	Limit (uW/MHz)	
Transmitter Spurious Emissions	30 MHz ~ 2 387 MHz	≤ 2.5
	2 387 MHz ~ 2 400 MHz	≤ 25.0
	2 483.5 MHz ~ 2 496.5 MHz	≤ 25.0
	2 496.5 MHz ~ 12.5 GHz	≤ 2.5

8.7 Test Results

Please refer to Appendix A.

9. Collateral Emission

9.1 Operating environment

Temperature : 25 °C
Relative humidity : 51 % R.H.

9.2 Test Setup

Measurement frequency range acc. to Ordinance Regulation Radio Equipment (2008-04) from 30 MHz to 5 times the carrier frequency; measurement performed in the range 30 MHz to 12.5 GHz.

The EUT was operated in continuous receive mode (modulated).

Cable losses and external attenuators were regarded by the use of a transducer factor.

9.3 Measurement uncertainty

Conducted spurious emissions of transmitter, 30 MHz ~ 40 GHz : ± 1.40 dB

9.4 Test Method

Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

9.5 Test Date

December 10, 2025 ~ December 11, 2025

9.6 Limit

Test Case	Limit (nW)	
Collateral Emission	30 MHz ~ 1 GHz	≤ 4.0
	1 GHz ~ 12.5 GHz	≤ 20.0

9.7 Test Results

Please refer to Appendix A.

10. Interference prevention function

10.1 Operating environment

Temperature : 25 °C
Relative humidity : 51 % R.H.

10.2 Test Date

December 10, 2025 ~ December 11, 2025

10.3 Limit

Radio equipment used mainly on the same premises and automatically transmits or receives identification code
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10.4 Test Results

Please refer to Appendix A.

11. LIST OF TEST EQUIPMENT

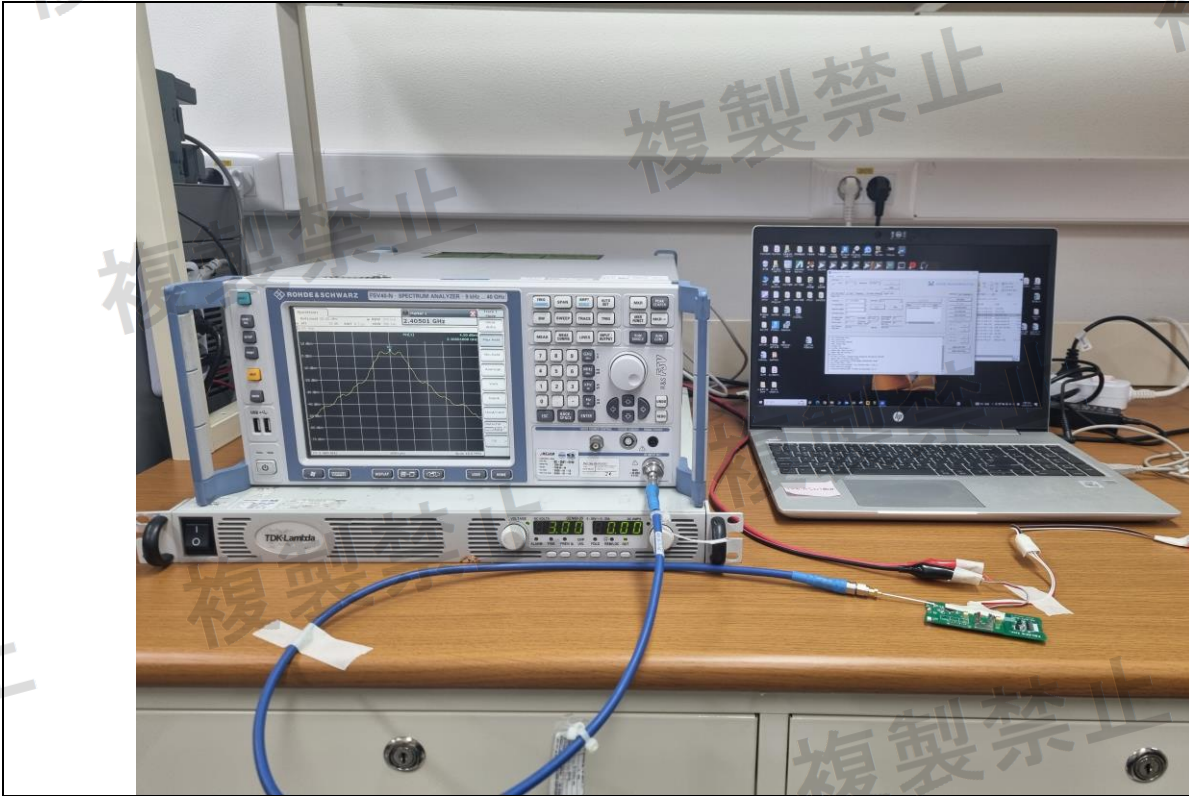
Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)	Remarks
FSV40-N	Rohde & Schwarz	Signal & Spectrum Analyzer	102196	Jan. 13, 2025 (1Y)	24-2 paragraph 「ハ」
GEN60-25	TDK-Lambda	DC Power Supply	941Z19-0007	Jan. 13, 2025 (1Y)	
SMB100A	Rohde & Schwarz	Signal Generator	177648	Jan. 13, 2025 (1Y)	
53152A	HP	CW Microwave Frequency Counter	US39270295	Jul. 04, 2025 (1Y)	
NRP-Z81	Rohde & Schwarz	Wideband Power Sensor	104811	Jan. 15, 2025 (1Y)	

All test equipment used is calibrated on a regular basis.

Article 24-2, Paragraph 4, Item 2 of the Radio Law

(c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT
or a designated calibration agency under Article 102-18 paragraph (1)

12. TEST SET-UP PHOTO



Appendix A : Test Results

Please refer to the following pages for test results.

2.4GHz low-power data communication system

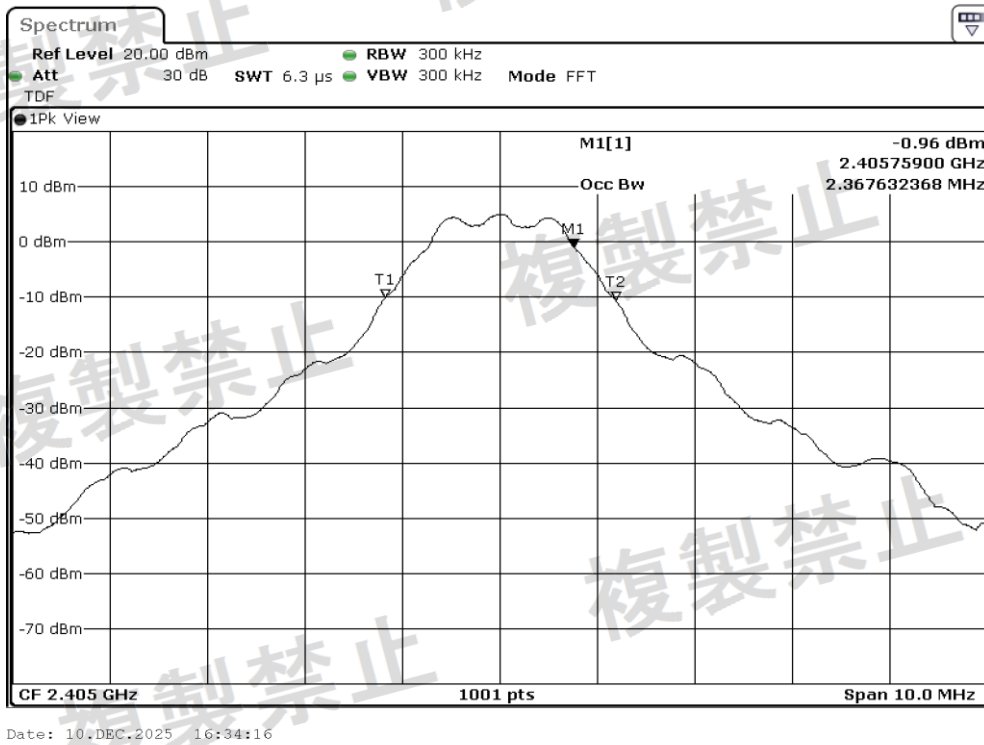
Test result	Electric performance	Voltage		V	Limit	DC 3.00 V (normal)			DC 3.30 V (high)			DC 2.70 V (low)		
		Test Frequency		MHz	-	2405	2440	2480	2405	2440	2480	2405	2440	2480
		Frequency tolerance(measured frequency)		-	MHz	2405.000	2440.003	2479.999	2405.001	2439.998	2480.005	2405.002	2439.999	2480.003
		Frequency Error		ppm	50	-0.19	1.22	-0.57	0.45	-0.70	2.21	0.91	-0.26	1.39
		Occupied bandwidth		MHz	26	2.37	2.37	2.41	2.36	2.37	2.39	2.37	2.39	2.40
		Spurious emission	30 ~ 2387 MHz	-	MHz	1392.20	2166.80	2239.80	2303.40	2199.80	2239.80	2244.50	2359.90	2319.90
				μW	2.5	0.0083	0.0074	0.0066	0.0082	0.0073	0.0080	0.0079	0.0076	0.0077
			2387 ~ 2400 MHz	-	MHz	2399.99	2399.97	2399.31	2399.97	2399.94	2399.96	2399.90	2399.44	2399.84
				μW	25	0.0233	0.0116	0.0100	0.0254	0.0153	0.0107	0.0230	0.0119	0.0105
			2483.5 ~ 2496.5 MHz	-	MHz	2484.25	2492.92	2483.74	2485.58	2487.87	2483.52	2485.30	2491.35	2483.55
				μW	25	0.0111	0.0098	0.5152	0.0115	0.0097	0.5333	0.0119	0.0091	0.5236
		2496.5 ~ 12500 MHz	-	MHz	9616.50	9766.50	9926.50	9616.50	9756.50	9926.50	9626.50	9756.50	9916.50	
			μW	2.5	0.2518	0.1479	0.1052	0.2198	0.1358	0.1256	0.2249	0.1340	0.1208	
		Antenna power deviation		mW/MHz	10	3.447	3.262	3.137	3.412	3.273	3.148	3.396	3.243	3.155
				%	20	-31.06	-34.76	-37.26	-31.76	-34.54	-37.04	-32.08	-35.14	-36.90
		Collateral Emissions	(measured frequency) 30 ~ 1000 MHz	-	MHz	239.80	320.22	320.22	320.22	320.22	320.22	239.80	320.22	399.69
				nW/100kHz	4	0.0217	0.0236	0.0264	0.0235	0.0290	0.0243	0.0266	0.0248	0.0247
(measured frequency) 1000 ~ 12500 MHz	-		MHz	6922.00	11403.00	11690.00	11380.00	11288.00	12023.00	11908.00	11380.00	11242.00		
	nW/MHz		20	0.2671	0.2990	0.2420	0.2637	0.2883	0.2340	0.2712	0.2514	0.2180		
E.I.R.P.		dBm/MHz	12.14	7.37	7.13	6.96	7.33	7.15	6.98	7.31	7.11	6.99		
Hopping Frequency staying time		sec	NA											
Interference Protection (Deveice ID)			yes	Complies	Complies	Complies	Complies	Complies	Complies	Complies	Complies	Complies		
Carrier Sense			NA											

NA = Not Applicable

NT = Not test

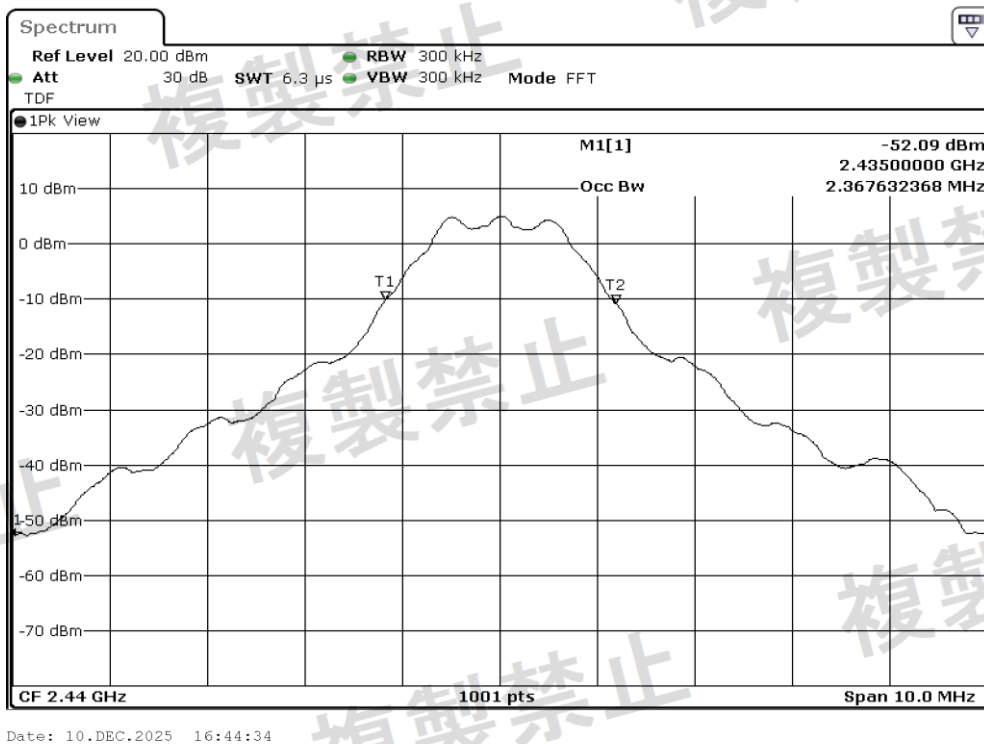
Note
EIRP

Test Band				-
Antenna				Ant 1
Test Parameters for Channel Bandwidths				
Test Item	No.	Mode	Channel	Verdict
OCCUPIED BANDWIDTH	1	Zigbee	11	Pass
	2		18	Pass
	3		26	Pass
TRANSMITTER SPURIOUS EMISSIONS	4		11	Pass
	5			Pass
	6			Pass
	7			Pass
	8		18	Pass
	9			Pass
	10			Pass
	11			Pass
	12		26	Pass
	13			Pass
	14			Pass
	15			Pass
COLLATERAL EMISSION	16		11	Pass
	17			Pass
	18		18	Pass
	19			Pass
	20		26	Pass
	21			Pass



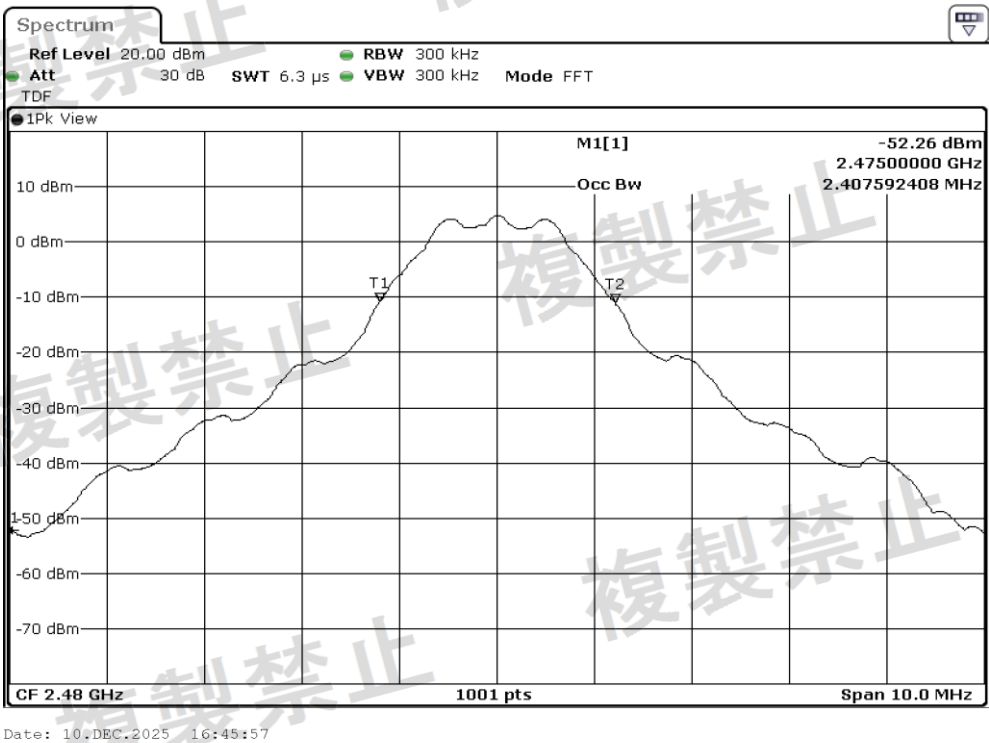
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OCCUPIED BANDWIDTH

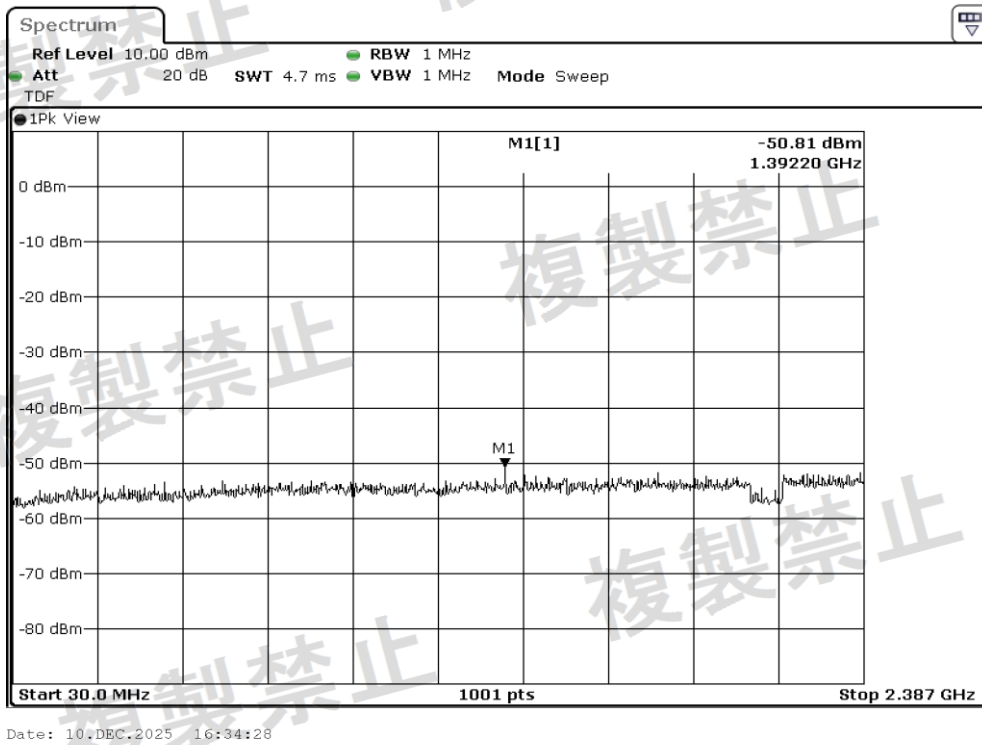


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OCCUPIED BANDWIDTH

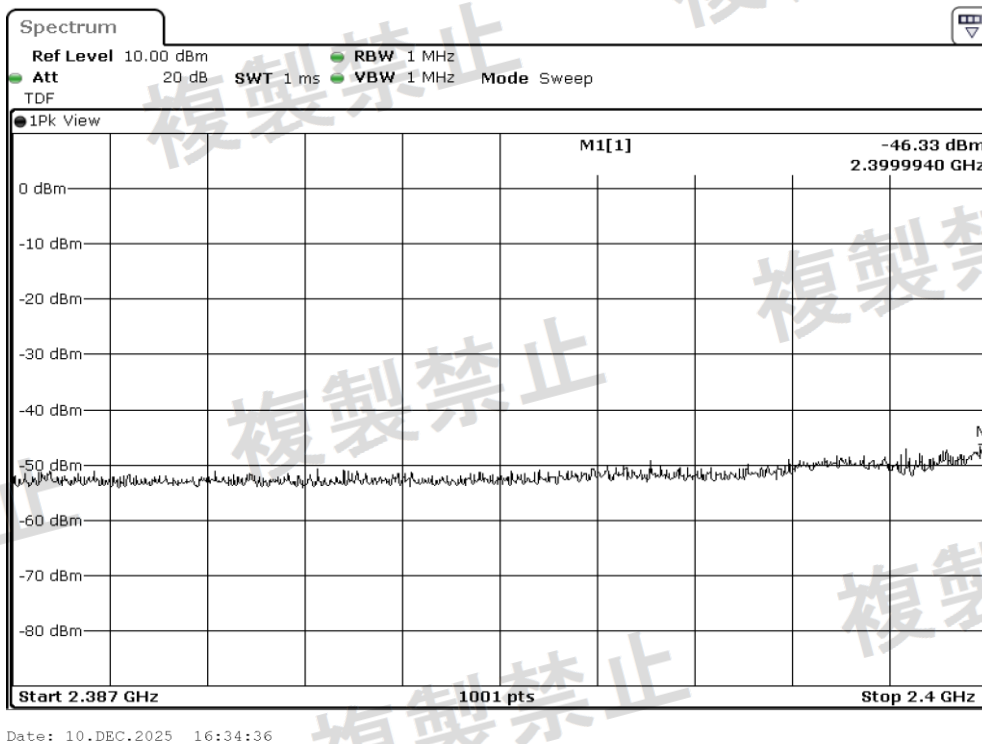


3	OCCUPIED BANDWIDTH
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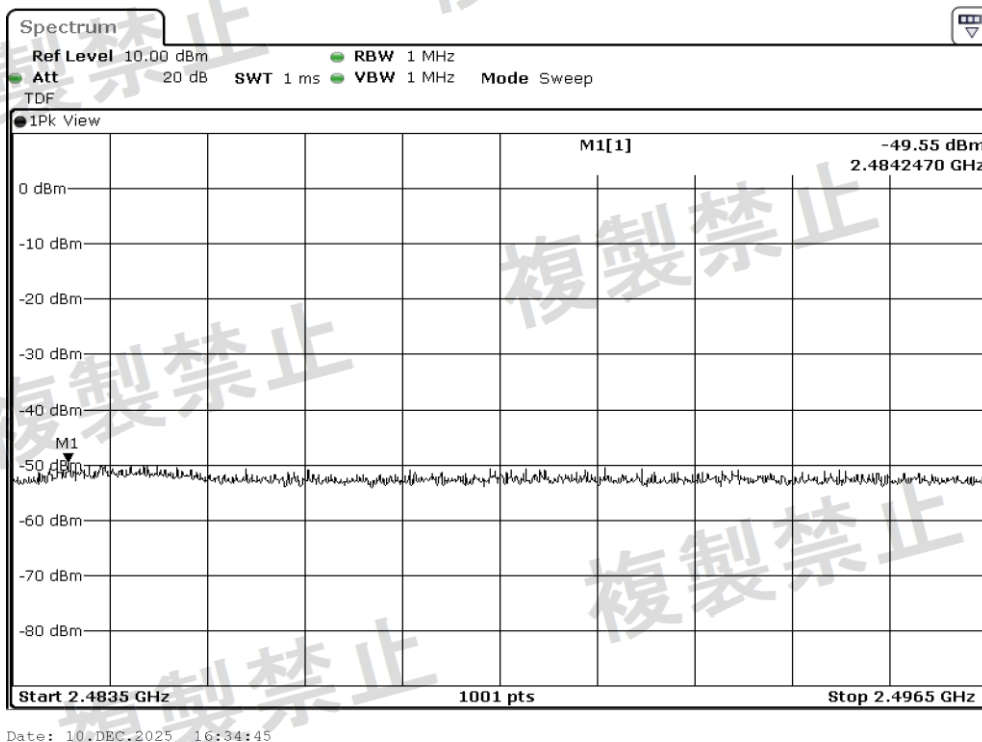
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TRANSMITTER SPURIOUS EMISSIONS



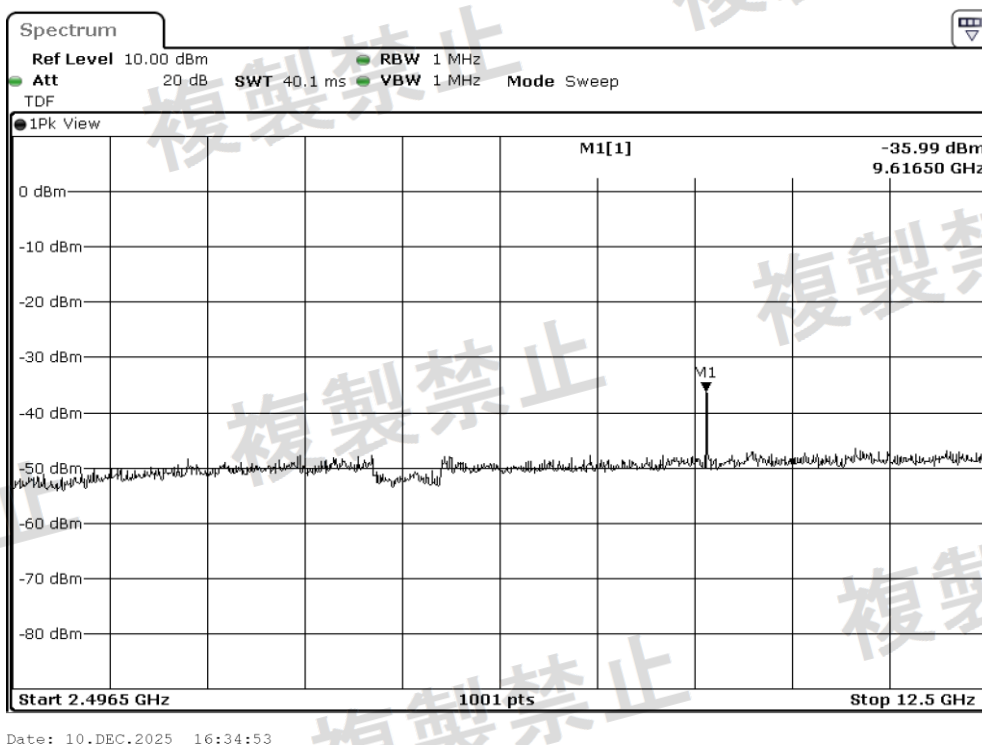
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TRANSMITTER SPURIOUS EMISSIONS



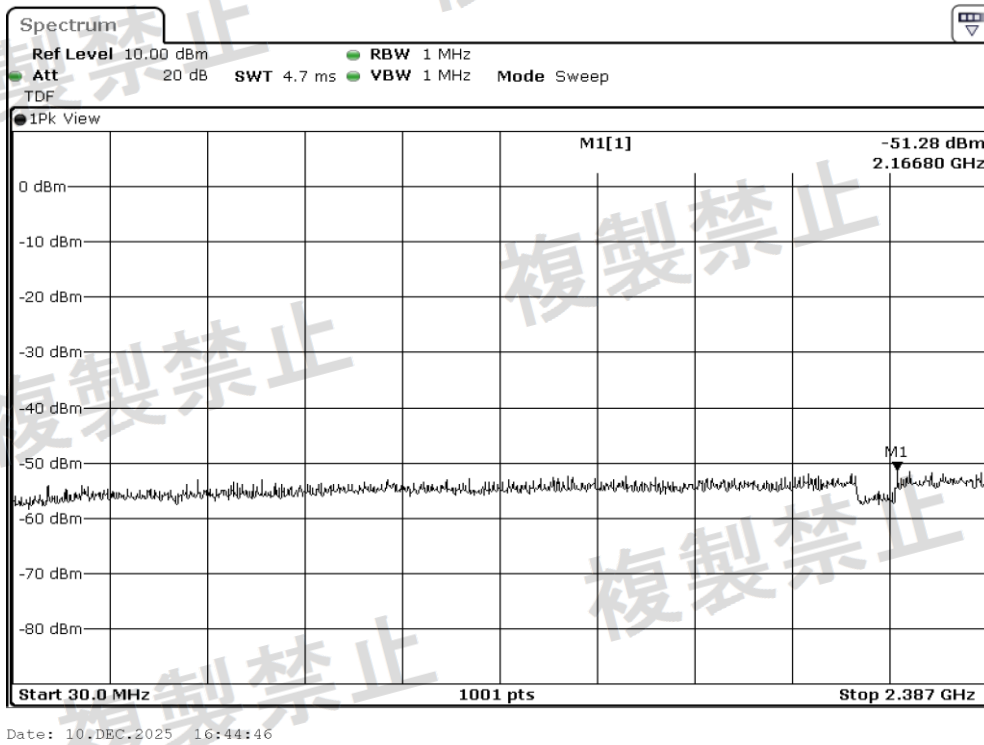
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TRANSMITTER SPURIOUS EMISSIONS



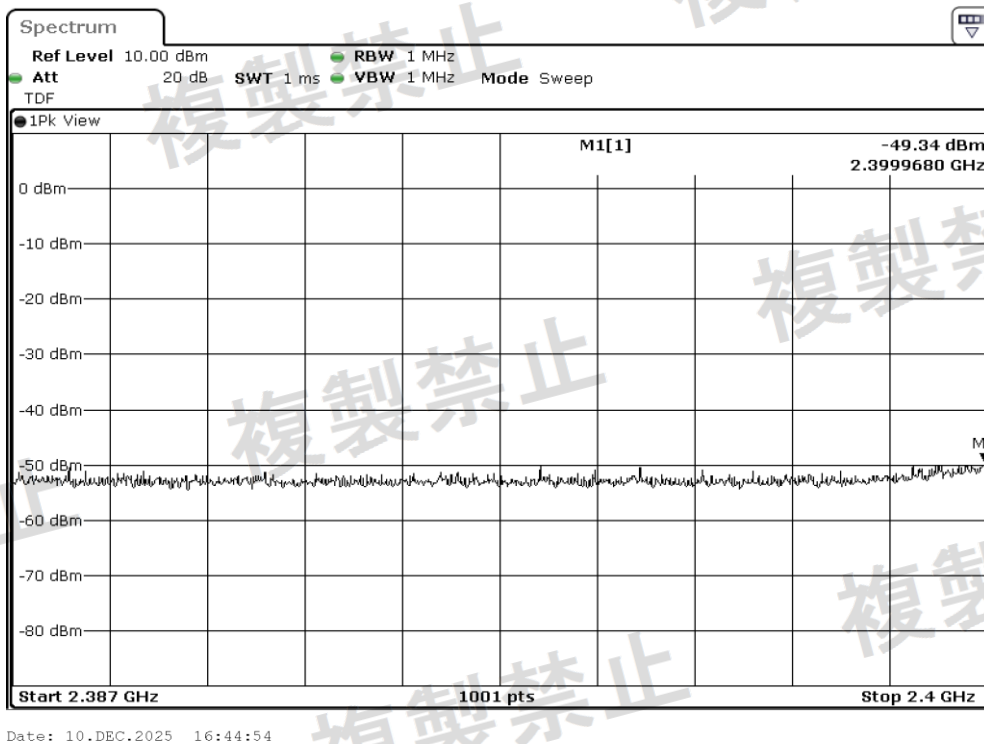
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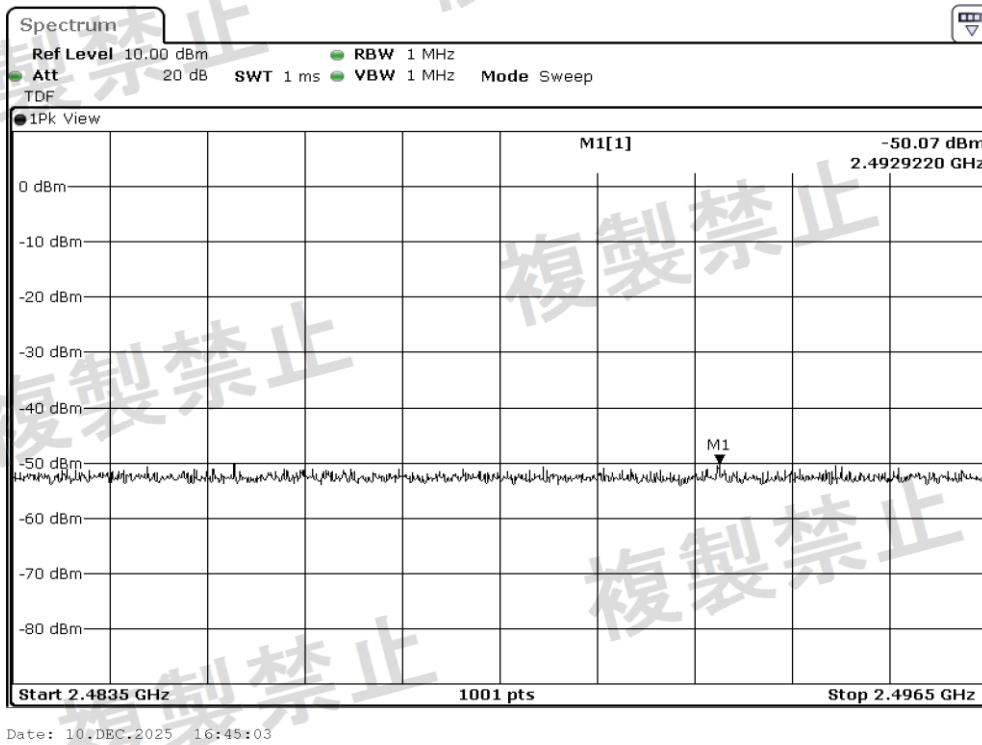
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TRANSMITTER SPURIOUS EMISSIONS



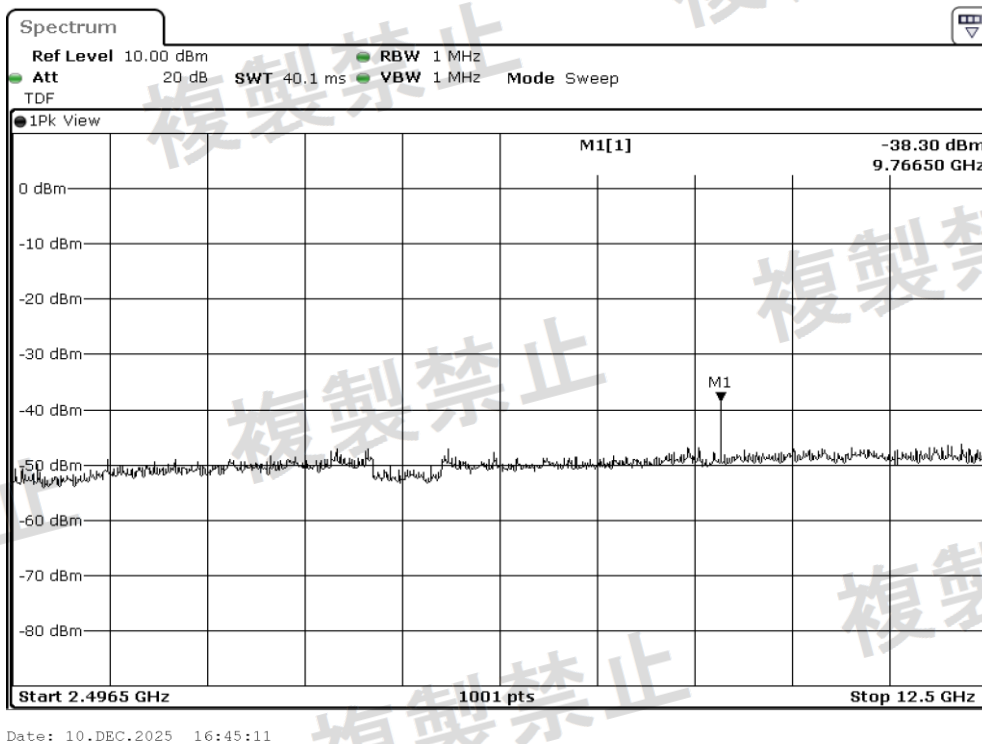
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TRANSMITTER SPURIOUS EMISSIONS



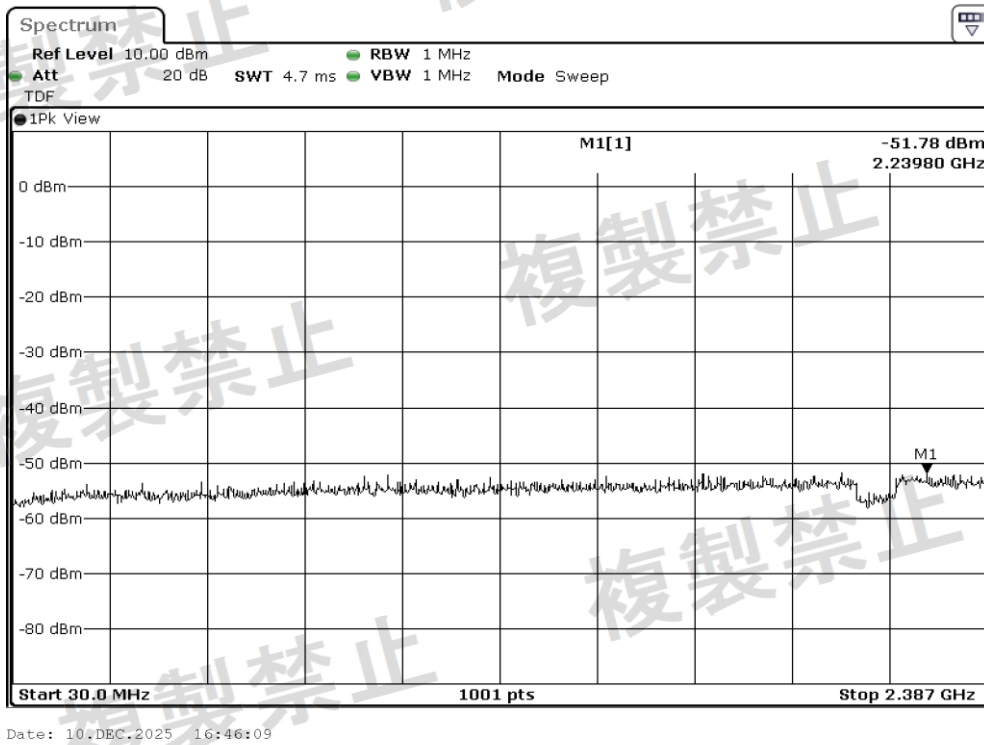
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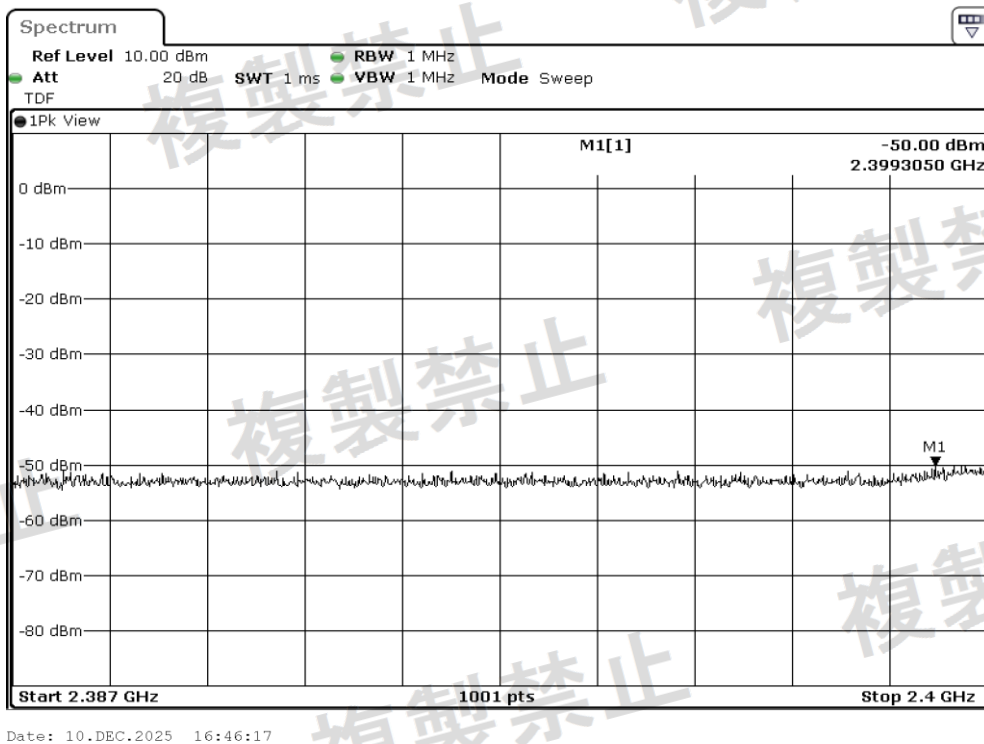
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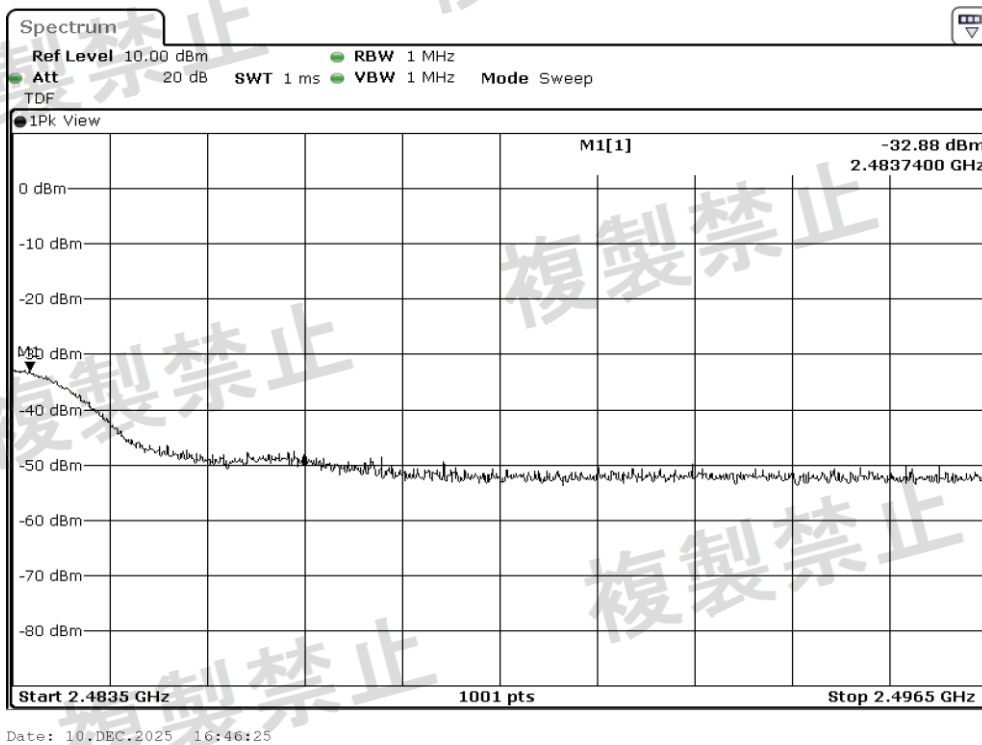
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TRANSMITTER SPURIOUS EMISSIONS



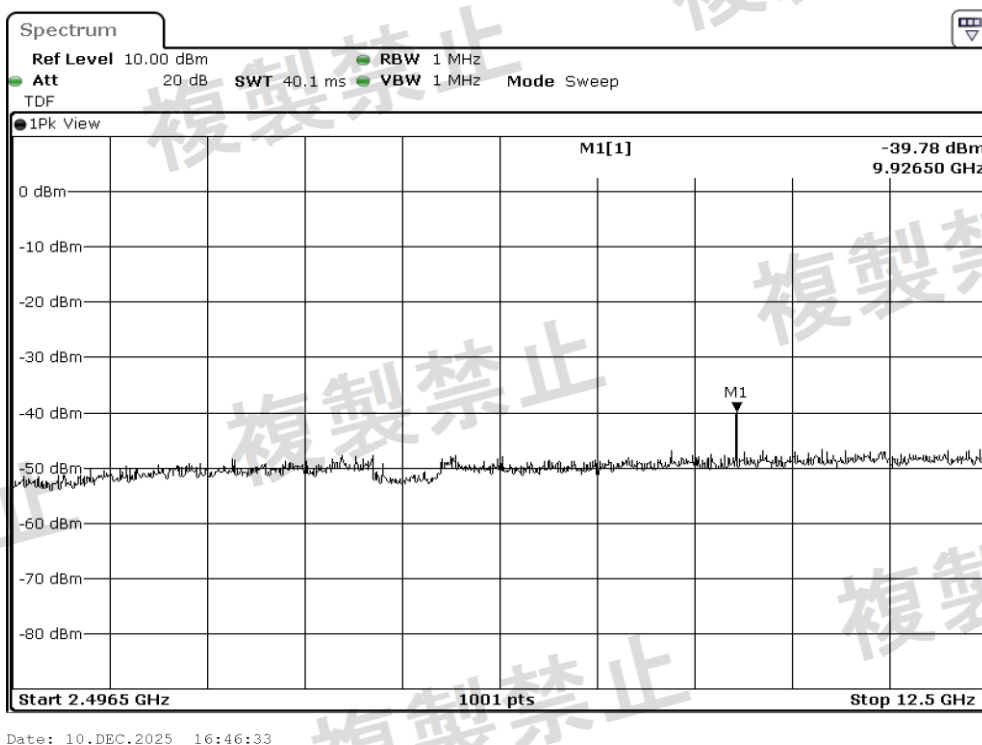
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TRANSMITTER SPURIOUS EMISSIONS



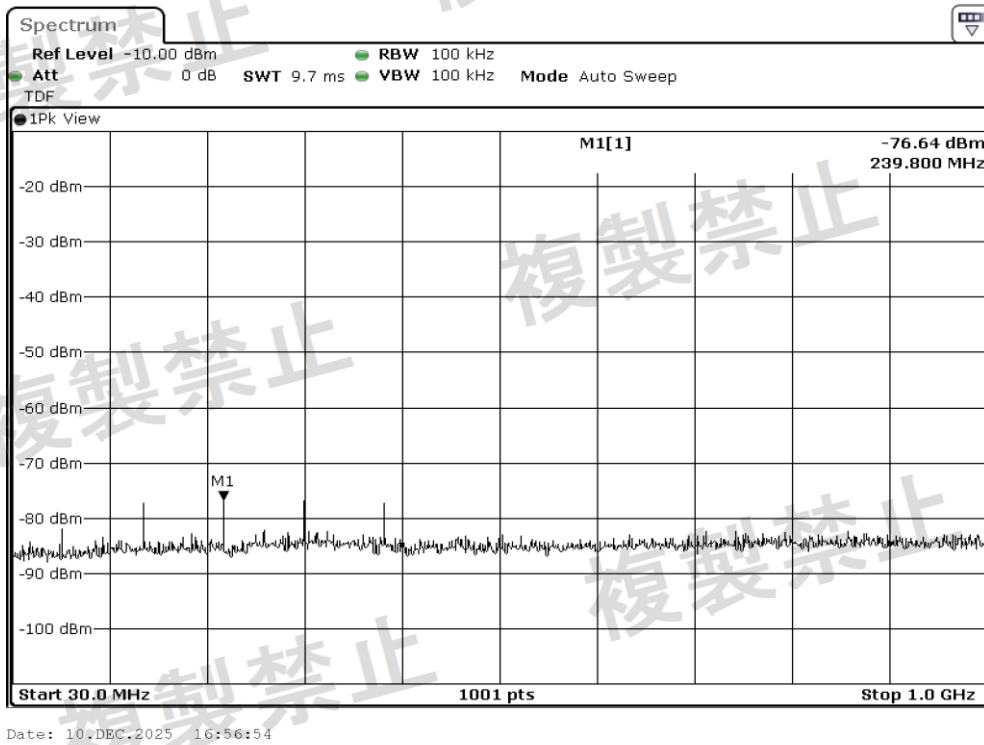
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TRANSMITTER SPURIOUS EMISSIONS



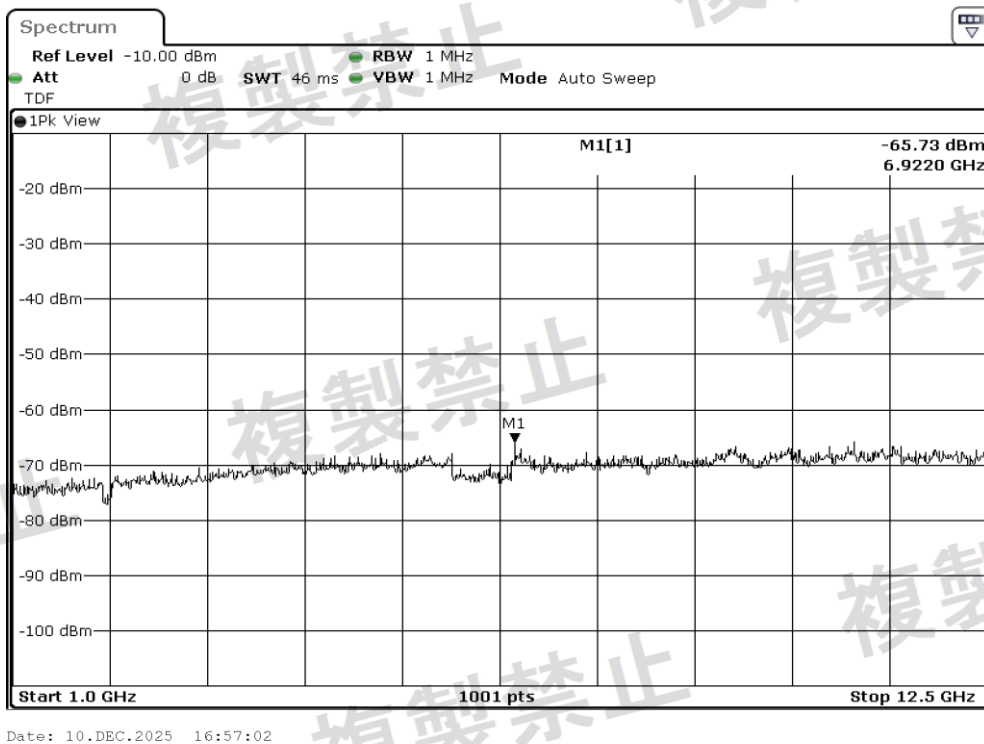
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TRANSMITTER SPURIOUS EMISSIONS



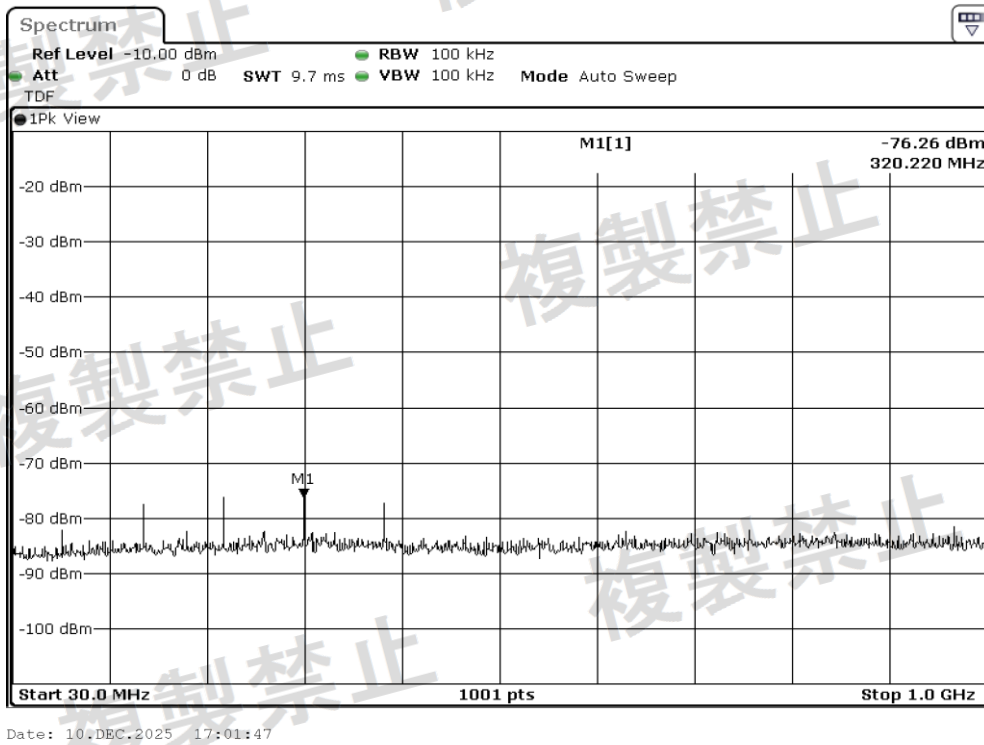
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COLLATERAL EMISSION



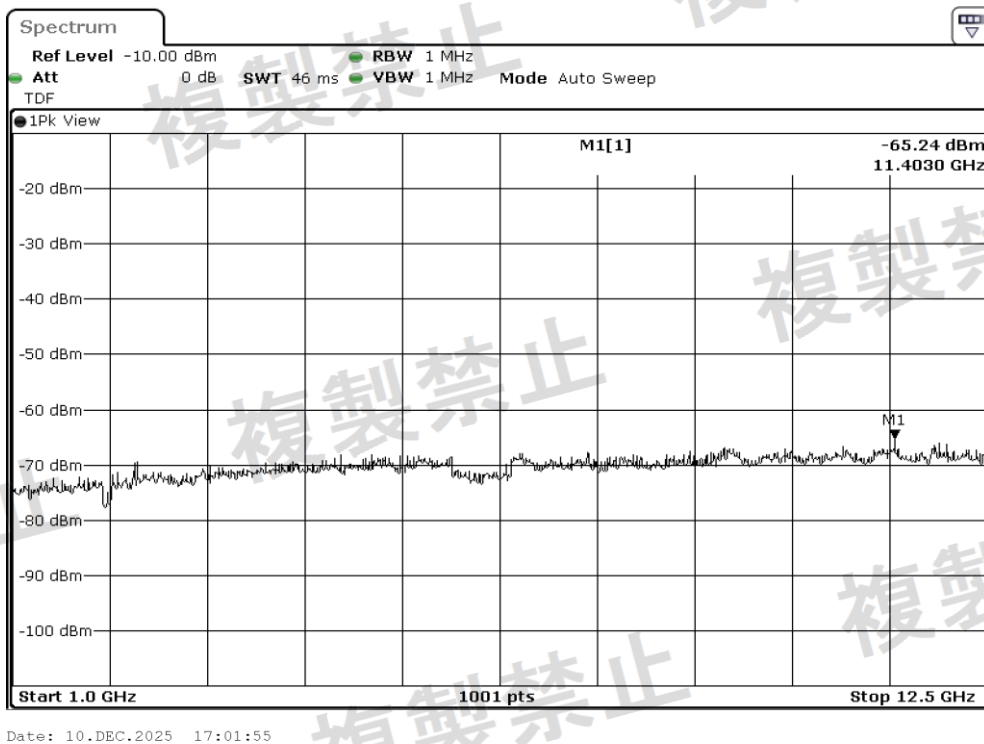
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COLLATERAL EMISSION



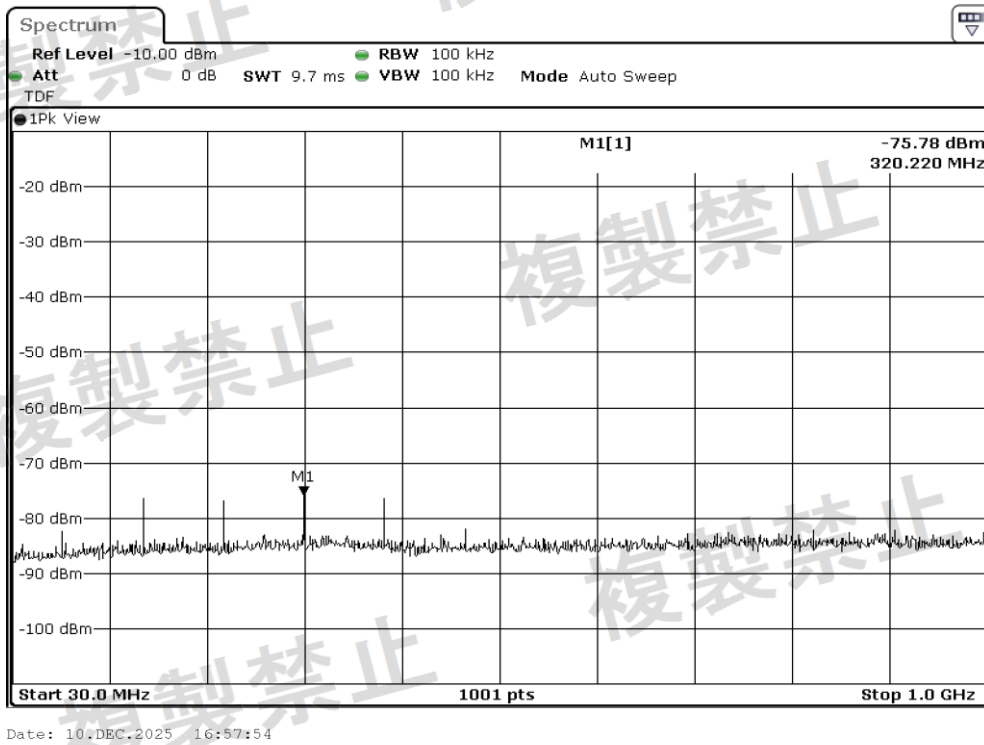
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COLLATERAL EMISSION



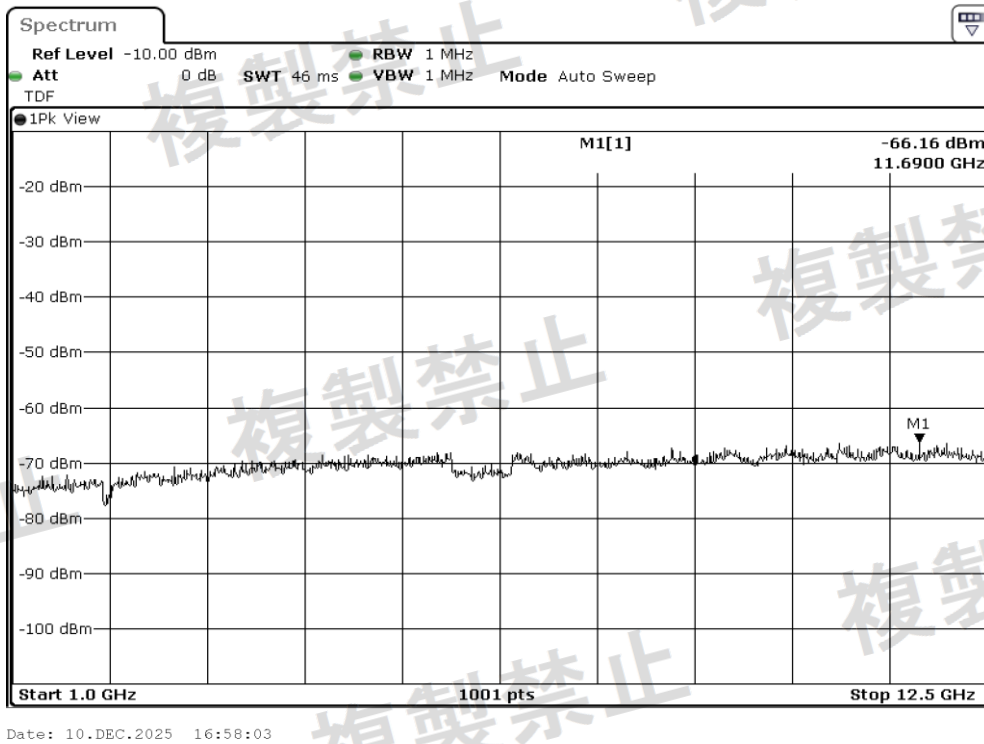
19

COLLATERAL EMISSION



20

COLLATERAL EMISSION



21

COLLATERAL EMISSION