FCC RF Test Report

APPLICANT	:	Lenovo(Shanghai) Electronics Technology Co., Ltd.
EQUIPMENT	:	Portable Tablet Computer
BRAND NAME	:	Lenovo
MODEL NAME	:	TB336ZU
FCC ID	:	O57TB336ZU
STANDARD	:	47 CFR Part 22(H), 24(E), 27(L)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)
TEST DATE(S)	:	Mar. 13, 2025 ~ Mar. 18, 2025

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

This report contains data that were produced under subcontract by Sporton International Inc. (Shenzhen).

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.02

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APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B. TEST RESULTS OF RADIATED TEST

APPENDIX C. TEST SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG512510A	Rev. 01	Initial issue of report	Mar. 28, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	< 13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Band Edge Measurement	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Emission	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §22.355	Frequency Stability for Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053; §22.917(a); §24.238(a); §27.53(h)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 21.61 dB at 2509.20 MHz

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Lenovo(Shanghai) Electronics Technology Co., Ltd.
Section 304-305, Building No. 4, # 222, Meiyue Road, China (Shanghai) Pilot Free Trade Zone

1.2 Manufacturer

Lenovo PC HK Limited
23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Portable Tablet Computer
Brand Name	Lenovo
Model Name	TB336ZU
FCC ID	O57TB336ZU
IMEI Code	Conducted: 865246070007573 Radiation: 865246070008456/865246070008464
HW Version	TB336ZU
SW Version	Lenovo ZUI 17.0
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are five type of EUT. The differences could be referred to the TB336ZU_Operational Description of Product Equality Declaration exhibit separately. After evaluation, we chose sample 1 to perform full test and sample 2 to verify the worst case of sample 1 for RSE.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	**GSM/GPRS/EDGE:** 850: 824 MHz ~ 849 MHz 1900: 1850MHz ~ 1910MHz **WCDMA:** Band V: 824 MHz ~ 849 MHz Band II: 1850 MHz ~ 1910 MHz Band IV: 1710 MHz ~ 1755 MHz
Rx Frequency	**GSM/GPRS/EDGE:** 850: 869 MHz ~ 894 MHz 1900: 1930 MHz ~ 1990 MHz **WCDMA:** Band V: 869 MHz ~ 894 MHz Band II: 1930 MHz ~ 1990 MHz Band IV: 2110 MHz ~ 2155 MHz
Maximum Output Power to Antenna	**GSM/GPRS/EDGE:** 850: 32.08 dBm 1900: 29.23 dBm **WCDMA:** Band V: 23.40 dBm Band II: 23.44 dBm Band IV: 23.33 dBm
Antenna Type	PIFA Antenna
Antenna Gain	<ANT4> Cellular Band: -3.5 dBi PCS Band: -3.0 dBi AWS Band: -2.5 dBi
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+ : 16QAM(16QAM not support uplink)

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum ERP/EIRP Power, and Emission Designator

FCC Rule	Frequency Band	Frequency Range (MHz)	Type of Modulation	Maximum ERP/EIRP (W)	Emission Designator
Part 22	GSM850 (GSM)	824.2 ~ 848.8	GMSK	0.4395	245KGXW
Part 22	GSM850 (EDGE)	824.2 ~ 848.8	8PSK	0.1114	245KG7W
Part 22	WCDMA Band V	826.4 ~ 846.6	BPSK	0.0596	4M15F9W
Part 24	GSM1900 (GSM)	1850.2 ~ 1909.8	GMSK	0.4198	246KGXW
Part 24	GSM1900 (EDGE)	1850.2 ~ 1909.8	8PSK	0.1683	242KG7W
Part 24	WCDMA Band II	1852.4 ~ 1907.6	BPSK	0.1107	4M16F9W
Part 27	WCDMA Band IV	1712.4 ~ 1752.6	BPSK	0.1211	4M15F9W

1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-KS	CN1257	314309

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH02-SZ	CN1256	421272

Note: Test data subcontracted: RSE test case in section 4.4 of this report.

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	SPORTON	Part2224_Ver5.0 200330	5.0
2.	03CH02-SZ	AUDIX	E3	6.2009-8-24a

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 22(H), 24(E), 27(L)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

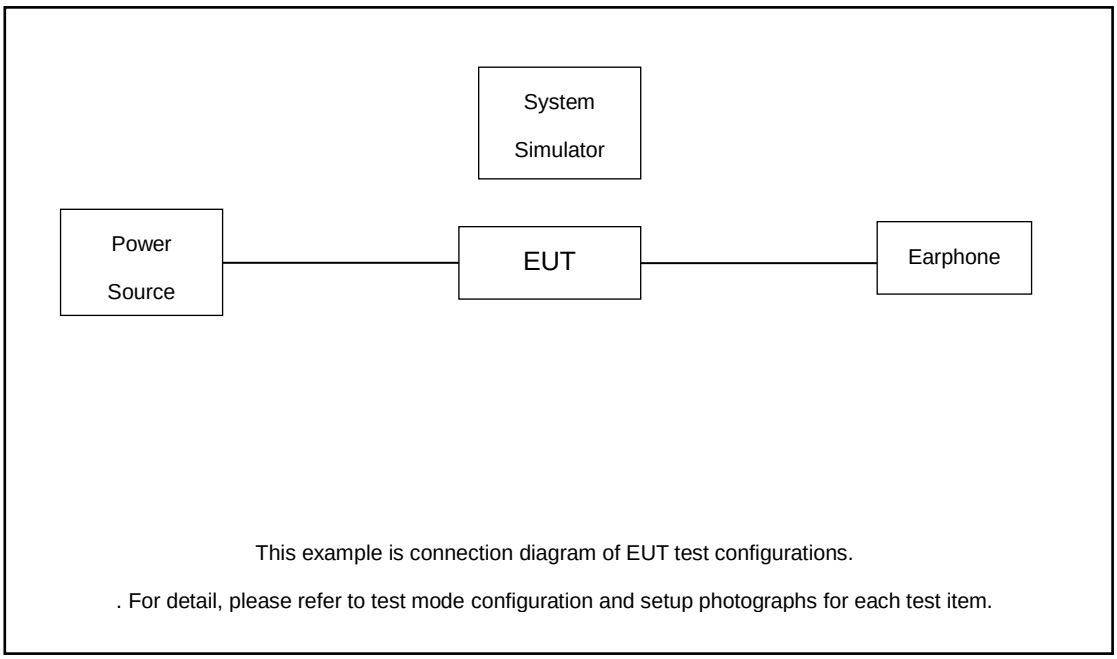
1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19100 MHz for GSM1900 and WCDMA Band II.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

Test Modes		
Band	**Radiated TCs**	**Conducted TCs**
GSM 850	■ GSM Link ■ EDGE 1 Tx slots Link	■ GSM Link ■ EDGE 1 Tx slots Link
GSM 1900	■ GSM Link ■ EDGE 1 Tx slots Link	■ GSM Link ■ EDGE 1 Tx slots Link
WCDMA Band V	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band IV	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link

2.2 Connection Diagram of Test System



The EUT has been configuration operated in a manner tended to maximize its emission characteristics in a typical application.

2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Agilent	E5515C	N/A	N/A	Unshielded, 1.8 m
3.	Earphone 1	N/A	N/A	N/A	3.5mm	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.6 dB and a 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.6 + 10 = 14.6 (dB)

2.5 Frequency List of Low/Middle/High Channels

Frequency List				
Band	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
GSM850	Channel	128	189	251
	Frequency	824.2	836.4	848.8
WCDMA Band V	Channel	4132	4182	4233
	Frequency	826.4	836.4	846.6
GSM1900	Channel	512	661	810
	Frequency	1850.2	1880.0	1909.8
WCDMA Band II	Channel	9262	9400	9538
	Frequency	1852.4	1880.0	1907.6
WCDMA Band IV	Channel	1312	1413	1513
	Frequency	1712.4	1732.6	1752.6

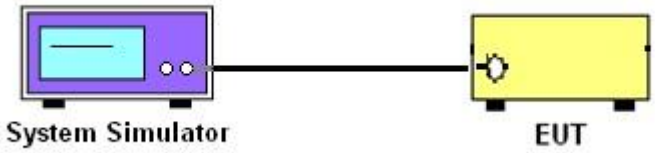
3 Conducted Test Result

3.1 Measuring Instruments

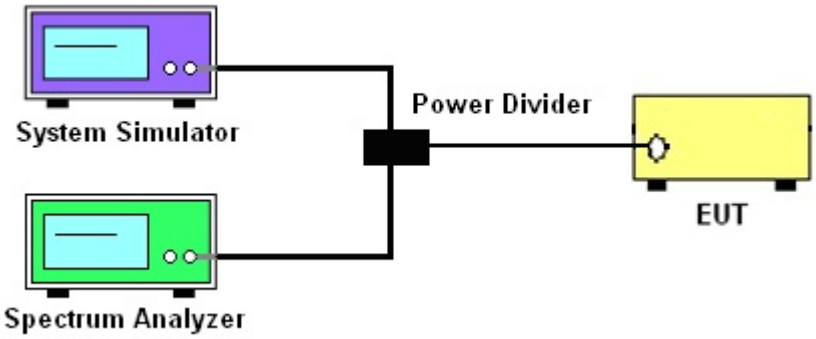
See list of measuring instruments of this test report.

3.2 Test Setup

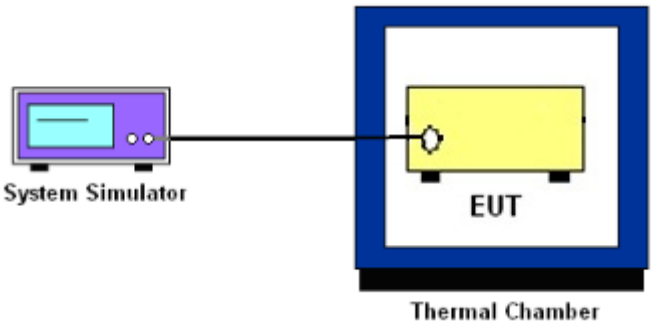
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 Description of the Conducted Output Power and ERP/EIRP

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for GSM850 and WCDMA Band V.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and WCDMA Band II.

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.6.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
   (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The band edges of low and high channels for the highest RF powers were measured.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

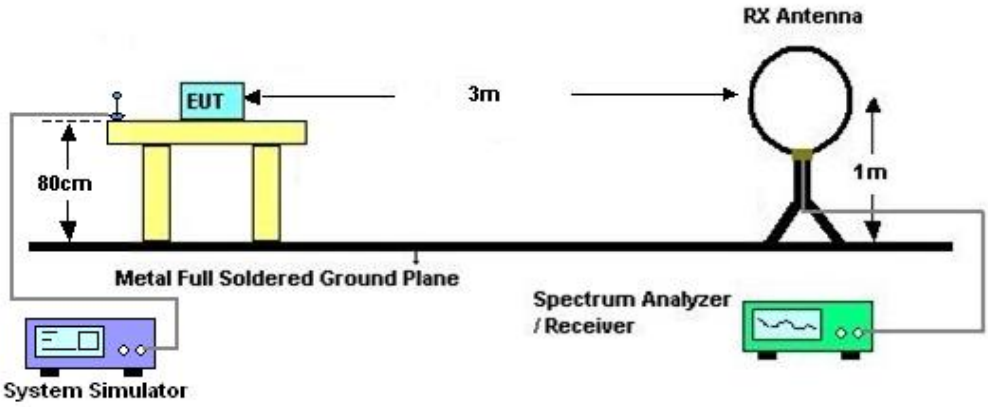
4 Radiated Test Items

4.1 Measuring Instruments

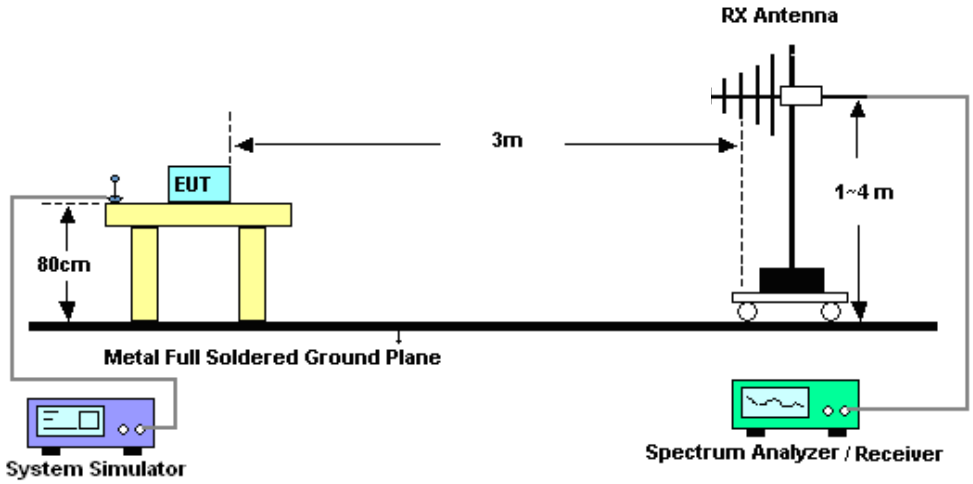
See list of measuring instruments of this test report.

4.2 Test Setup

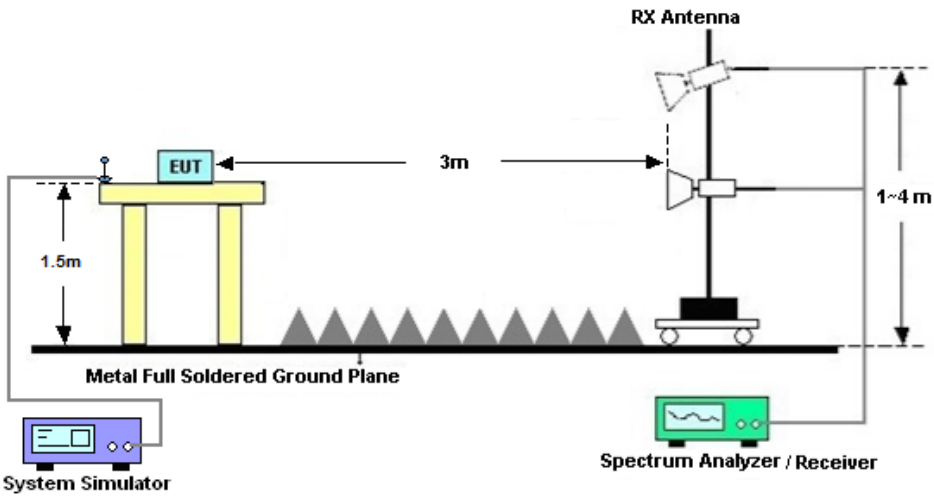
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.

4.4 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024	Mar. 18, 2025	Oct. 09, 2025	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Mar. 18, 2025	NCR	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Mar. 18, 2025	Jul. 03, 2025	Conducted (TH01-KS)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Mar. 13, 2025~ Mar. 17, 2025	Jul. 02, 2025	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 28, 2024	Mar. 13, 2025~ Mar. 17, 2025	Dec. 27, 2025	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Mar. 13, 2025~ Mar. 17, 2025	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Mar. 13, 2025~ Mar. 17, 2025	Jul. 04, 2025	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 03, 2024	Mar. 13, 2025~ Mar. 17, 2025	Jul. 03, 2025	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Mar. 13, 2025~ Mar. 17, 2025	Apr. 08, 2025	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2024	Mar. 13, 2025~ Mar. 17, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 14, 2024	Mar. 13, 2025~ Mar. 17, 2025	Oct. 13, 2025	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Oct. 18, 2024	Mar. 13, 2025~ Mar. 17, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Mar. 13, 2025~ Mar. 17, 2025	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Mar. 13, 2025~ Mar. 17, 2025	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

6 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±2.22 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.50 dB
Peak to Average Ratio	±0.90 dB
Frequency Stability	±0.04ppm

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.47 dB

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.31 dB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.72 dB

---------- THE END ----------

Appendix A. Test Results of Conducted Test

Test Engineer :	Smile Wang	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and ERP/EIRP

GSM850:

GSM850	Burst Average Power (dBm)			ERP(W)		
TX Channel	128	189	251			
Frequency (MHz)	824.2	836.4	848.8	L	M	H
GSM 1 Tx slot	31.97	32.08	31.99	0.4285	0.4395	0.4305
GPRS 1 Tx slot	31.93	32.06	31.94	0.4246	0.4375	0.4256
GPRS 2 Tx slots	31.10	31.22	31.14	0.3508	0.3606	0.3540
GPRS 3 Tx slots	29.23	29.36	29.33	0.2280	0.2350	0.2333
GPRS 4 Tx slots	28.04	28.17	28.15	0.1734	0.1786	0.1778
EDGE 1 Tx slot	26.01	26.12	26.05	0.1086	0.1114	0.1096
EDGE 2 Tx slots	24.79	24.83	24.81	0.0820	0.0828	0.0824
EDGE 3 Tx slots	22.47	22.51	22.49	0.0481	0.0485	0.0483
EDGE 4 Tx slots	21.13	21.17	21.14	0.0353	0.0356	0.0354

GSM1900:

GSM1900	Burst Average Power (dBm)			EIRP(W)		
TX Channel	512	661	810			
Frequency (MHz)	1850.2	1880	1909.8	L	M	H
GSM 1 Tx slot	28.82	29.23	29.20	0.3819	0.4198	0.4169
GPRS 1 Tx slot	28.78	29.20	29.13	0.3784	0.4169	0.4102
GPRS 2 Tx slots	27.99	28.36	28.36	0.3155	0.3436	0.3436
GPRS 3 Tx slots	26.16	26.50	26.55	0.2070	0.2239	0.2265
GPRS 4 Tx slots	25.21	25.42	25.36	0.1663	0.1746	0.1722
EDGE 1 Tx slot	25.26	25.11	25.13	0.1683	0.1626	0.1633
EDGE 2 Tx slots	24.13	23.95	23.84	0.1297	0.1245	0.1213
EDGE 3 Tx slots	21.97	21.74	21.68	0.0789	0.0748	0.0738
EDGE 4 Tx slots	20.74	20.34	20.27	0.0594	0.0542	0.0533

WCDMA Band V:

Band		WCDMA V			ERP(W)		
TX Channel		4132	4182	4233			
Rx Channel		4357	4407	4458			
Frequency (MHz)		826.4	836.4	846.6	L	M	H
3GPP Rel 99	AMR 12.2Kbps	23.30	23.33	23.31	0.0582	0.0586	0.0583
3GPP Rel 99	RMC 12.2Kbps	23.36	23.40	23.38	0.0590	0.0596	0.0593
3GPP Rel 6	HSDPA Subtest-1	22.40	22.40	22.41	0.0473	0.0473	0.0474
3GPP Rel 6	HSDPA Subtest-2	22.33	22.43	22.44	0.0466	0.0476	0.0478
3GPP Rel 6	HSDPA Subtest-3	21.92	21.89	21.86	0.0424	0.0421	0.0418
3GPP Rel 6	HSDPA Subtest-4	21.95	22.04	21.92	0.0427	0.0436	0.0424
3GPP Rel 8	DC-HSDPA Subtest-1	22.49	22.53	22.37	0.0483	0.0488	0.0470
3GPP Rel 8	DC-HSDPA Subtest-2	22.47	22.52	22.41	0.0481	0.0486	0.0474
3GPP Rel 8	DC-HSDPA Subtest-3	21.83	21.89	21.87	0.0415	0.0421	0.0419
3GPP Rel 8	DC-HSDPA Subtest-4	21.91	22.04	21.82	0.0423	0.0436	0.0414
3GPP Rel 6	HSUPA Subtest-1	20.87	21.03	20.84	0.0333	0.0345	0.0330
3GPP Rel 6	HSUPA Subtest-2	20.83	20.90	20.87	0.0330	0.0335	0.0333
3GPP Rel 6	HSUPA Subtest-3	20.45	20.33	20.48	0.0302	0.0294	0.0304
3GPP Rel 6	HSUPA Subtest-4	20.32	20.42	20.31	0.0293	0.0300	0.0292
3GPP Rel 6	HSUPA Subtest-5	20.36	20.34	20.27	0.0296	0.0294	0.0290

WCDMA Band II:

Band		WCDMA II			EIRP(W)		
TX Channel		9262	9400	9538			
Rx Channel		9662	9800	9938			
Frequency (MHz)		1852.4	1880	1907.6	L	M	H
3GPP Rel 99	AMR 12.2Kbps	23.33	23.41	23.34	0.1079	0.1099	0.1081
3GPP Rel 99	RMC 12.2Kbps	23.40	23.44	23.38	0.1096	0.1107	0.1091
3GPP Rel 6	HSDPA Subtest-1	22.38	22.36	22.36	0.0867	0.0863	0.0863
3GPP Rel 6	HSDPA Subtest-2	22.28	22.44	22.40	0.0847	0.0879	0.0871
3GPP Rel 6	HSDPA Subtest-3	21.79	21.85	22.00	0.0757	0.0767	0.0794
3GPP Rel 6	HSDPA Subtest-4	21.94	22.03	21.95	0.0783	0.0800	0.0785
3GPP Rel 8	DC-HSDPA Subtest-1	22.35	22.43	22.36	0.0861	0.0877	0.0863
3GPP Rel 8	DC-HSDPA Subtest-2	22.32	22.48	22.28	0.0855	0.0887	0.0847
3GPP Rel 8	DC-HSDPA Subtest-3	21.79	21.89	21.91	0.0757	0.0774	0.0778
3GPP Rel 8	DC-HSDPA Subtest-4	21.94	22.01	21.94	0.0783	0.0796	0.0783
3GPP Rel 6	HSUPA Subtest-1	20.98	20.89	20.96	0.0628	0.0615	0.0625
3GPP Rel 6	HSUPA Subtest-2	20.84	20.84	20.89	0.0608	0.0608	0.0615
3GPP Rel 6	HSUPA Subtest-3	20.48	20.40	20.46	0.0560	0.0550	0.0557
3GPP Rel 6	HSUPA Subtest-4	20.41	20.38	20.35	0.0551	0.0547	0.0543
3GPP Rel 6	HSUPA Subtest-5	20.49	20.38	20.39	0.0561	0.0547	0.0548

WCDMA Band IV:

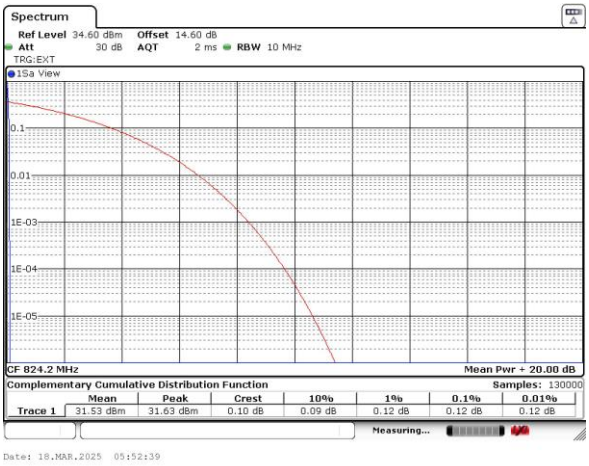
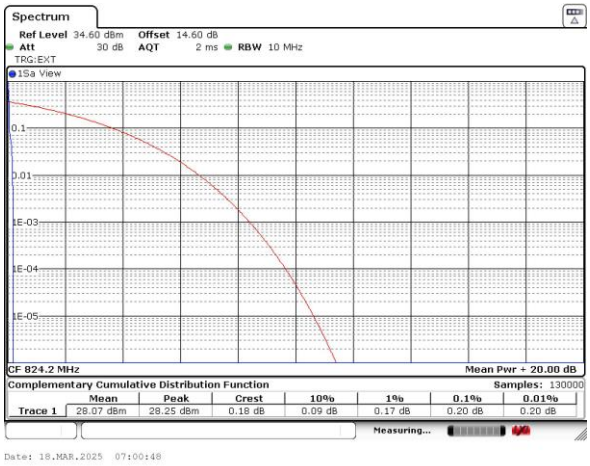
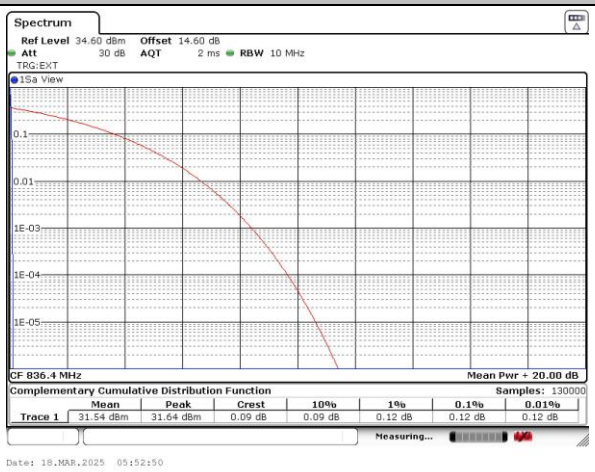
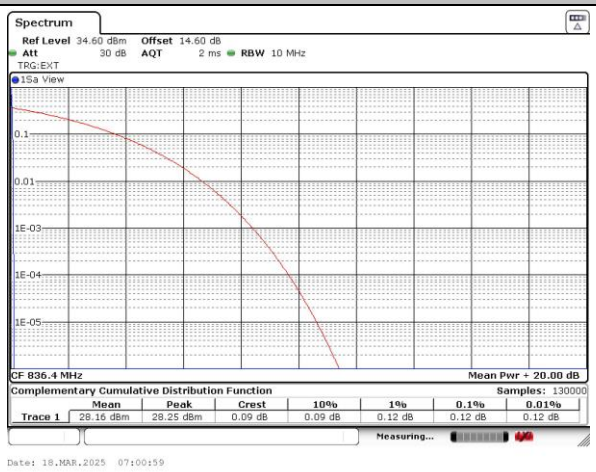
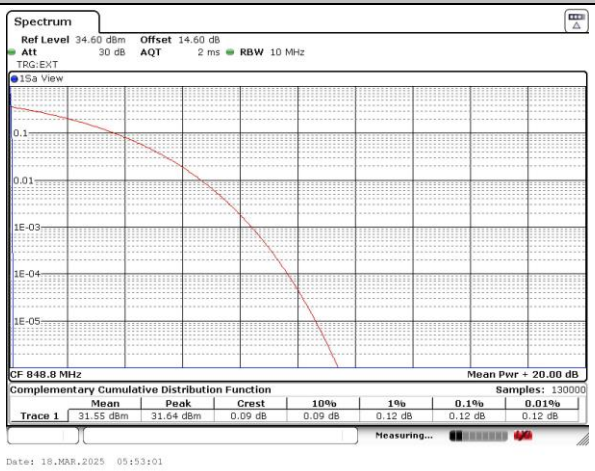
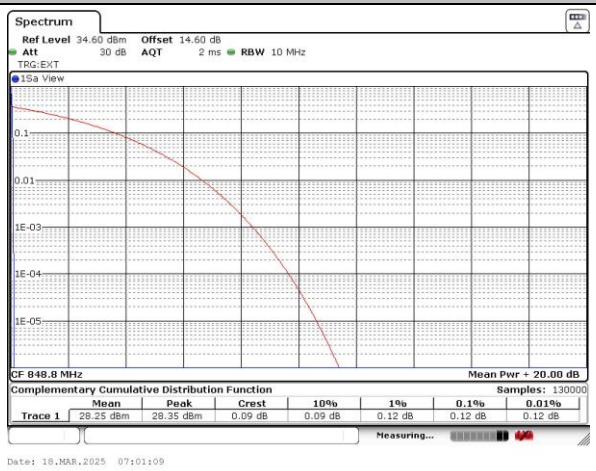
Band		WCDMA IV			EIRP(W)		
TX Channel		1312	1413	1513			
Rx Channel		1537	1638	1738			
Frequency (MHz)		1712.4	1732.6	1752.6	L	M	H
3GPP Rel 99	AMR 12.2Kbps	23.21	23.30	23.25	0.1178	0.1202	0.1189
3GPP Rel 99	RMC 12.2Kbps	23.25	23.33	23.29	0.1189	0.1211	0.1199
3GPP Rel 6	HSDPA Subtest-1	22.38	22.35	22.36	0.0973	0.0966	0.0968
3GPP Rel 6	HSDPA Subtest-2	22.37	22.50	22.46	0.0971	0.1000	0.0991
3GPP Rel 6	HSDPA Subtest-3	21.94	21.97	21.89	0.0879	0.0885	0.0869
3GPP Rel 6	HSDPA Subtest-4	21.81	22.04	21.86	0.0853	0.0899	0.0863
3GPP Rel 8	DC-HSDPA Subtest-1	22.40	22.44	22.45	0.0977	0.0986	0.0989
3GPP Rel 8	DC-HSDPA Subtest-2	22.28	22.48	22.50	0.0951	0.0995	0.1000
3GPP Rel 8	DC-HSDPA Subtest-3	21.83	21.83	21.83	0.0857	0.0857	0.0857
3GPP Rel 8	DC-HSDPA Subtest-4	22.00	21.82	21.81	0.0891	0.0855	0.0853
3GPP Rel 6	HSUPA Subtest-1	20.86	20.87	20.96	0.0685	0.0687	0.0701
3GPP Rel 6	HSUPA Subtest-2	20.83	21.06	20.90	0.0681	0.0718	0.0692
3GPP Rel 6	HSUPA Subtest-3	20.30	20.49	20.45	0.0603	0.0630	0.0624
3GPP Rel 6	HSUPA Subtest-4	20.39	20.50	20.43	0.0615	0.0631	0.0621
3GPP Rel 6	HSUPA Subtest-5	20.29	20.54	20.26	0.0601	0.0637	0.0597

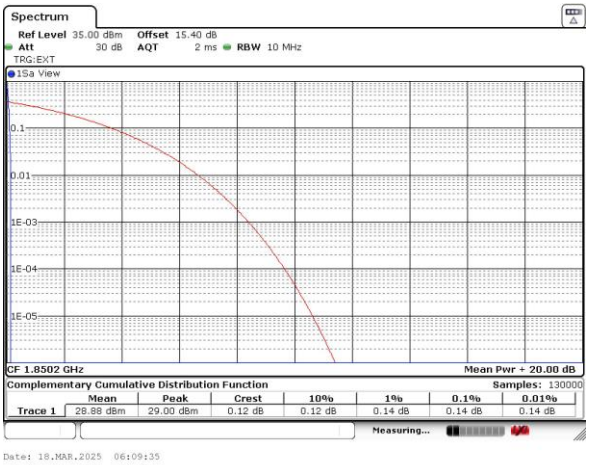
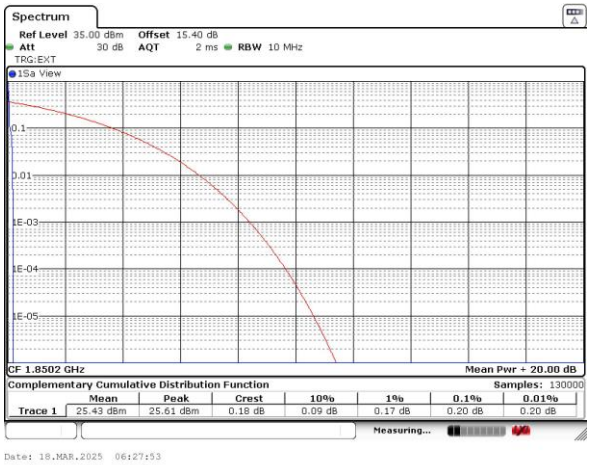
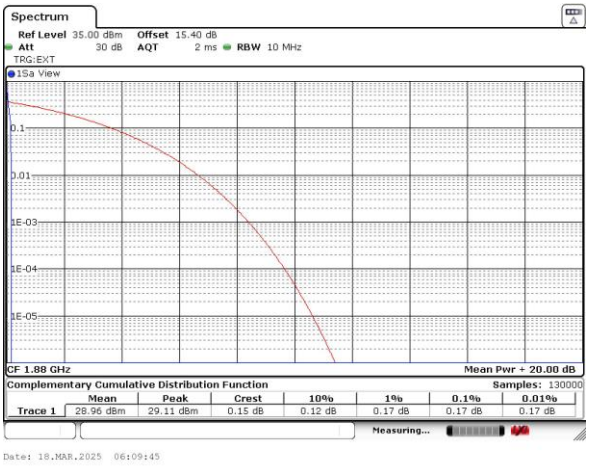
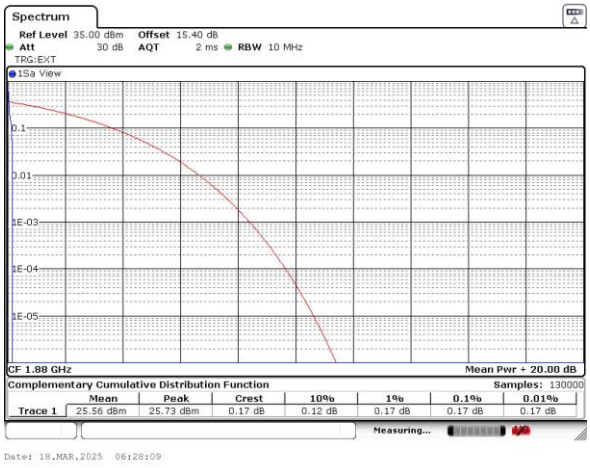
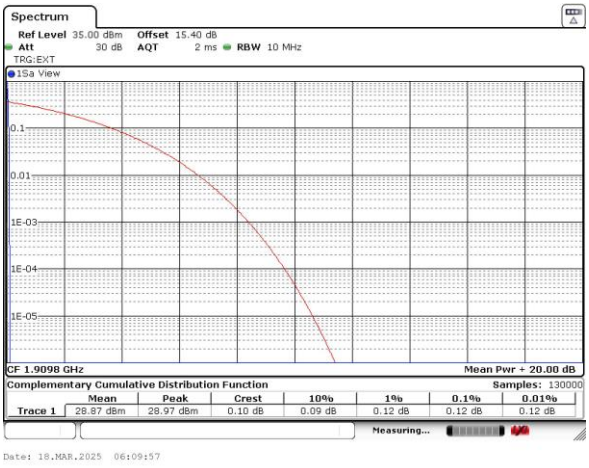
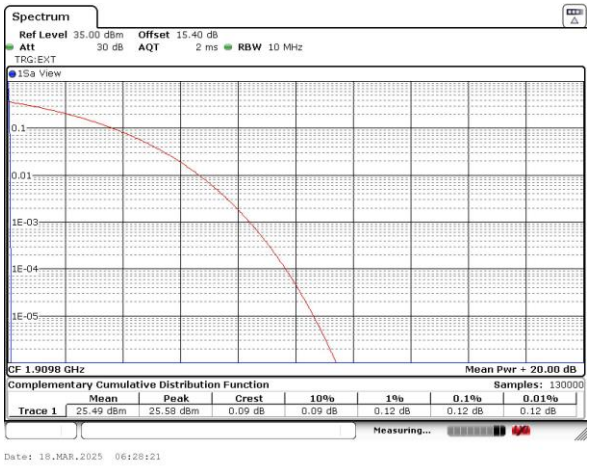
A1. GSM

Peak-to-Average Ratio

Mode	GSM850		Limit: 13dB
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.12	0.2	PASS
Middle CH	0.12	0.12	
Highest CH	0.12	0.12	

Mode	GSM1900		Limit: 13dB
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.14	0.2	PASS
Middle CH	0.17	0.17	
Highest CH	0.12	0.12	

GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

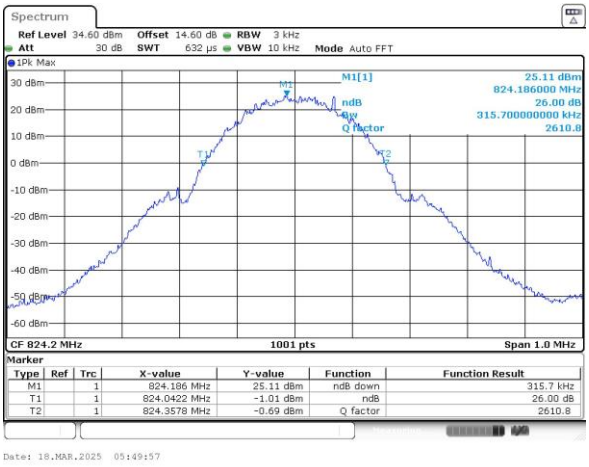
26dB Bandwidth

Mode	GSM850 (kHz)	
Mod.	GSM	EDGE class 8
Lowest CH	318.7	318.7
Middle CH	314.7	317.7
Highest CH	315.7	313.7

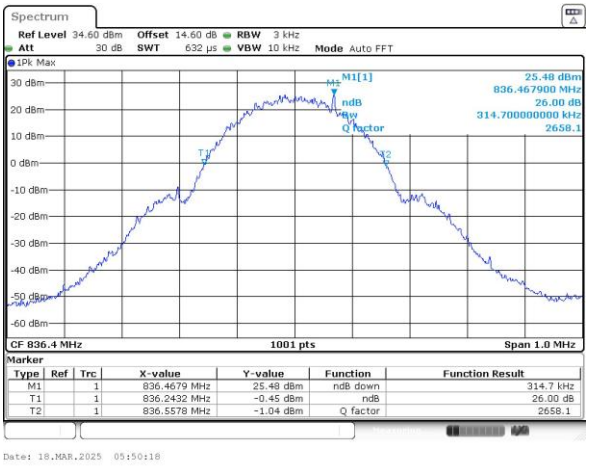
Mode	GSM1900 (kHz)	
Mod.	GSM	EDGE class 8
Lowest CH	312.7	316.7
Middle CH	308.7	311.7
Highest CH	314.7	314.7

GSM850 (GSM)

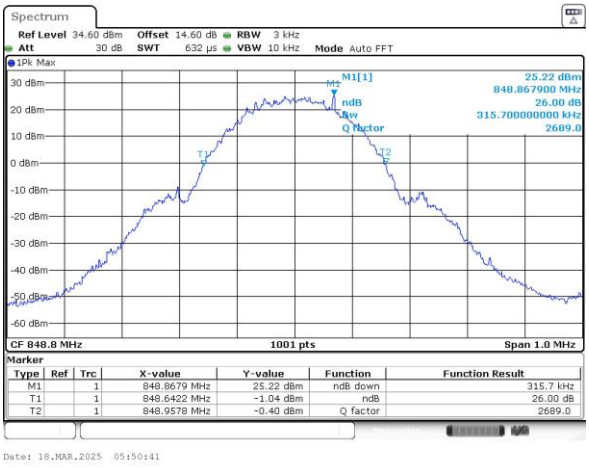
Lowest Channel



Middle Channel

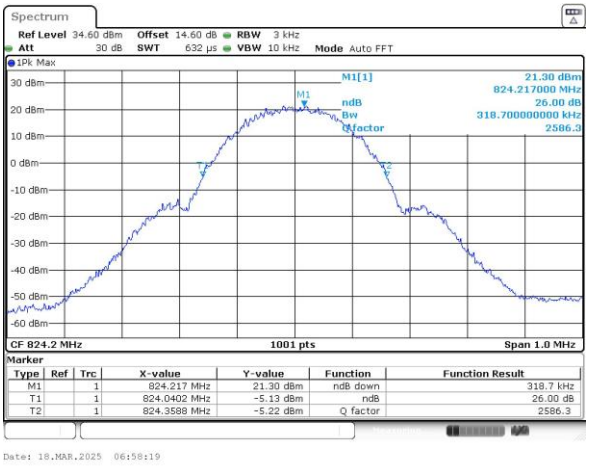


Highest Channel

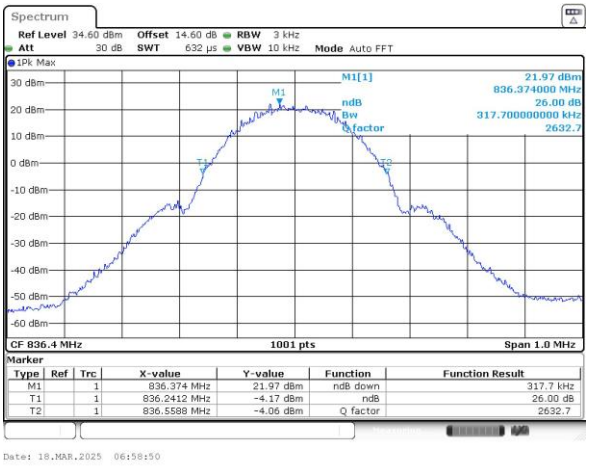


GSM850 (EDGE class 8)

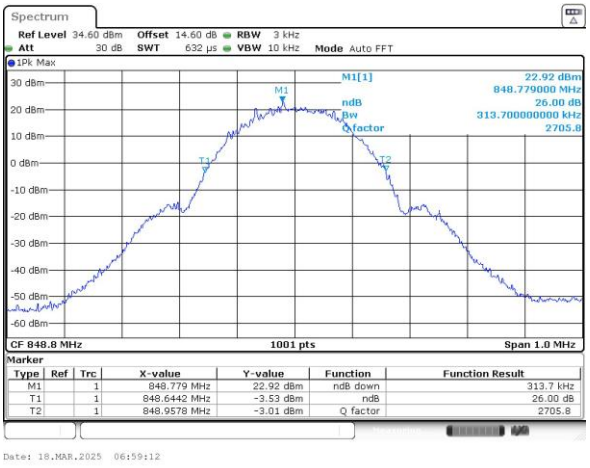
Lowest Channel

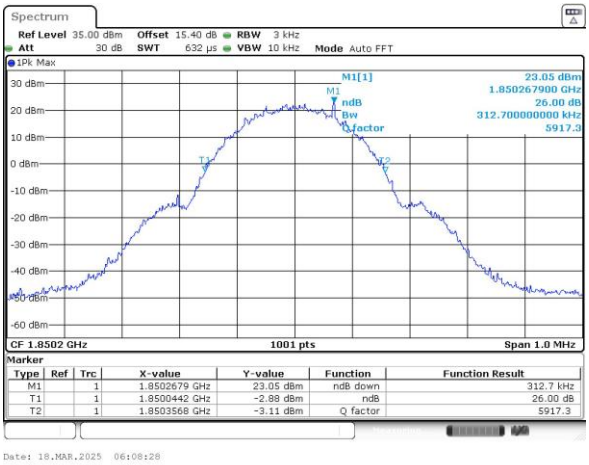
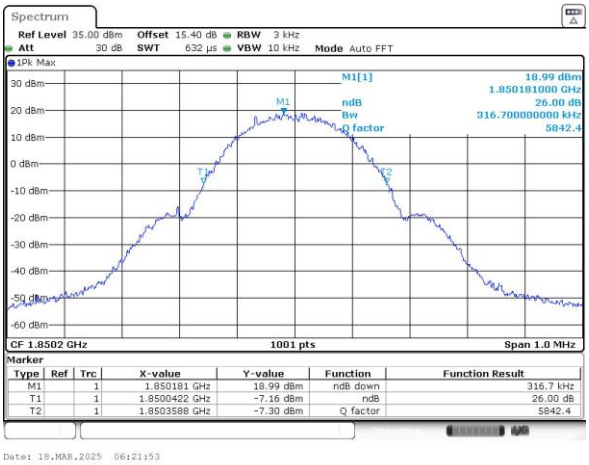
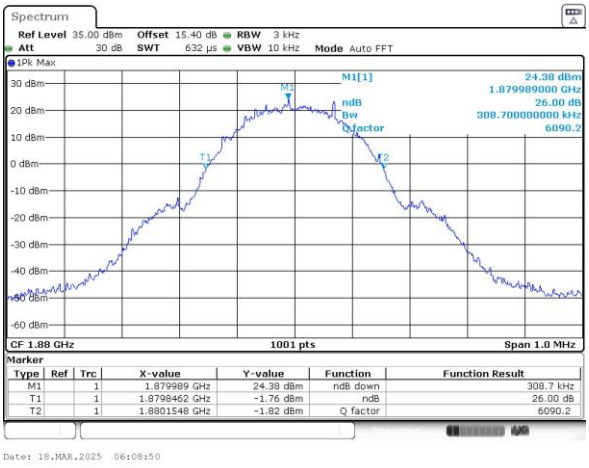
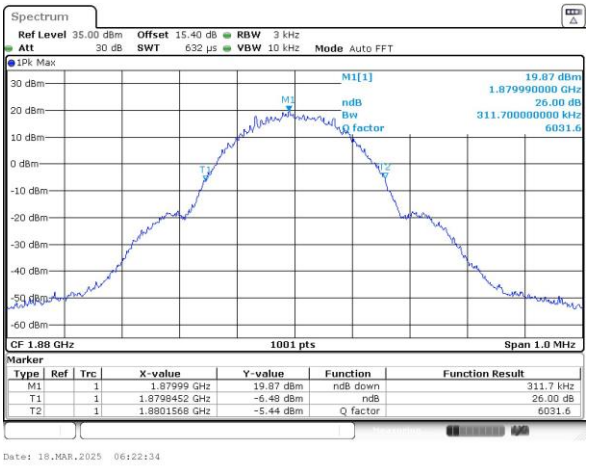
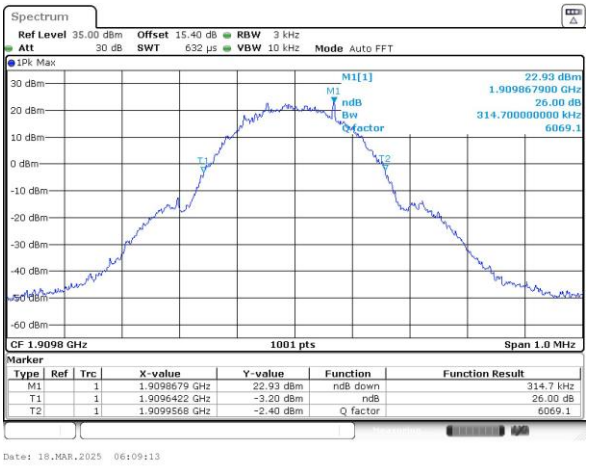
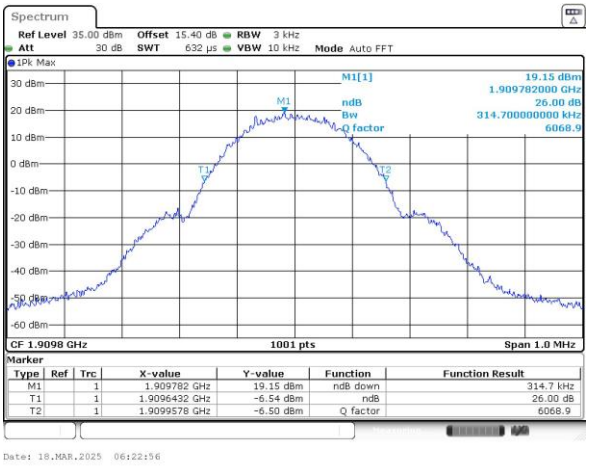


Middle Channel



Highest Channel



GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

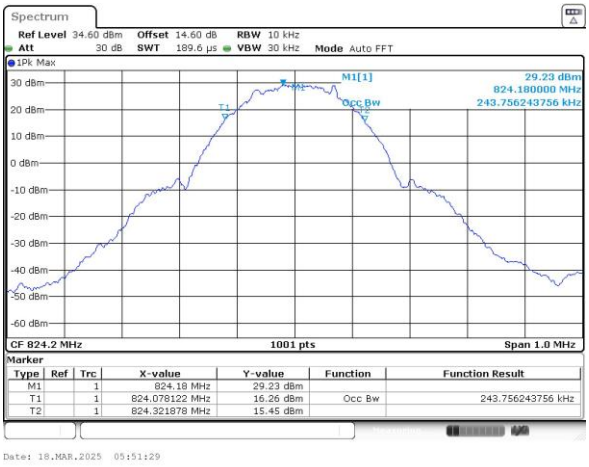
Occupied Bandwidth

Mode	GSM850 (kHz)	
Mod.	GSM	EDGE class 8
Lowest CH	243.76	241.76
Middle CH	242.76	244.76
Highest CH	244.76	241.76

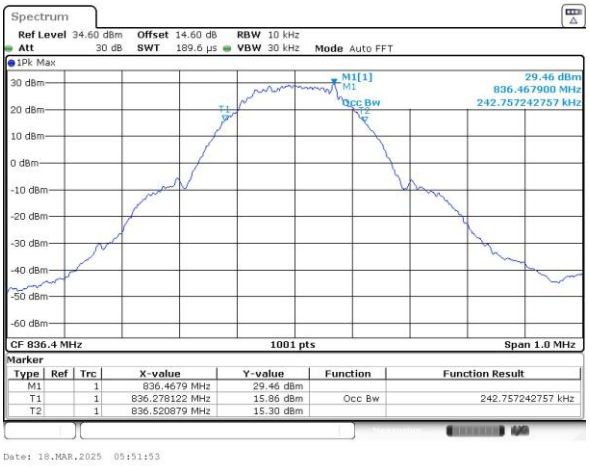
Mode	GSM1900 (kHz)	
Mod.	GSM	EDGE class 8
Lowest CH	241.76	241.76
Middle CH	245.75	241.76
Highest CH	241.76	240.76

GSM850 (GSM)

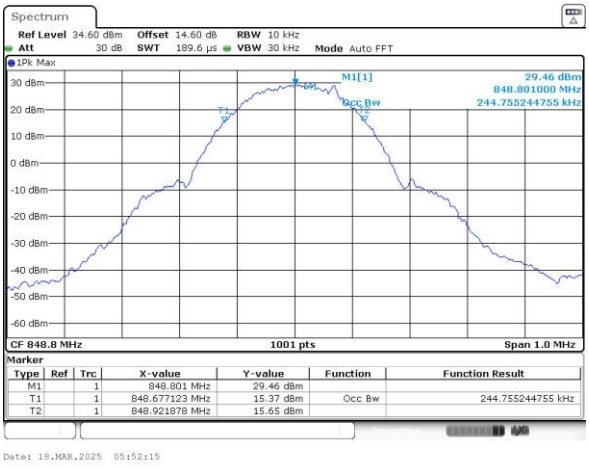
Lowest Channel



Middle Channel

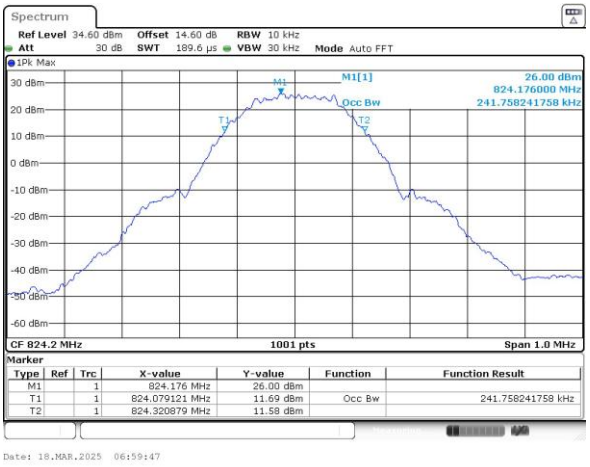


Highest Channel

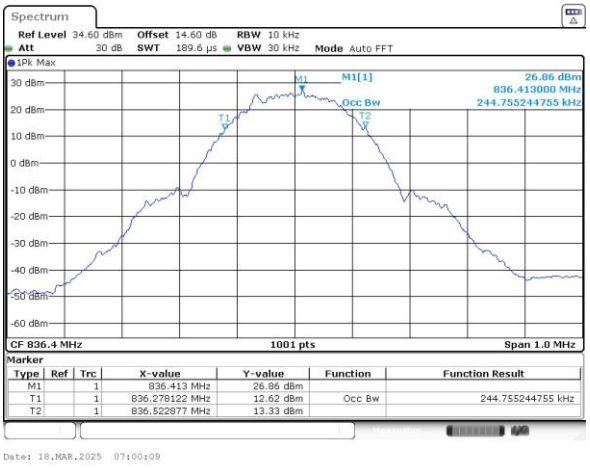


GSM850 (EDGE class 8)

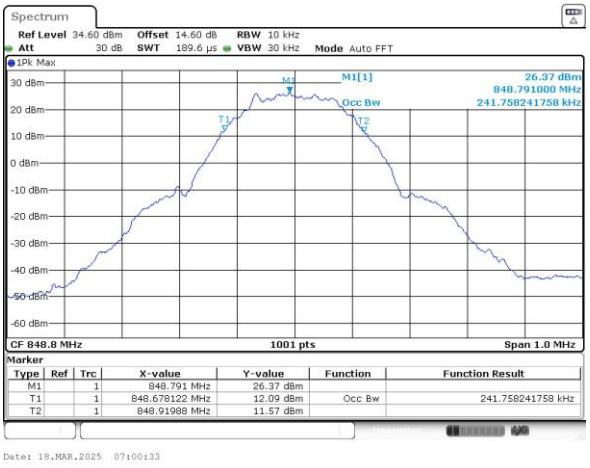
Lowest Channel

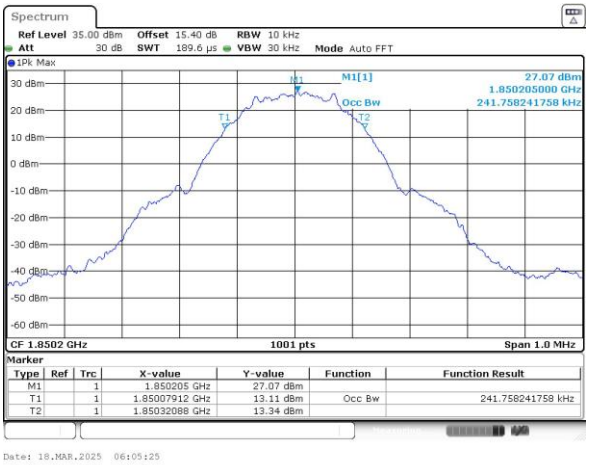
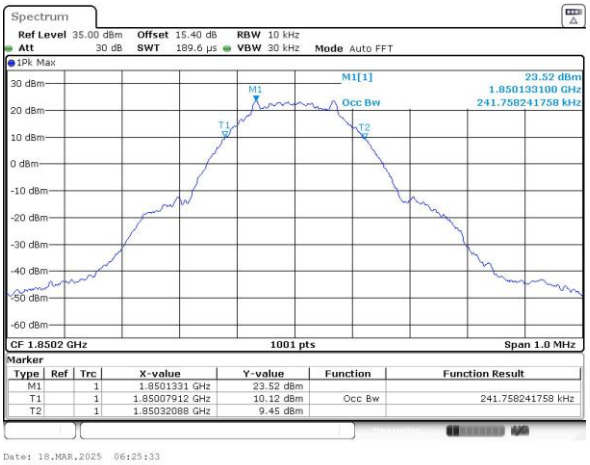
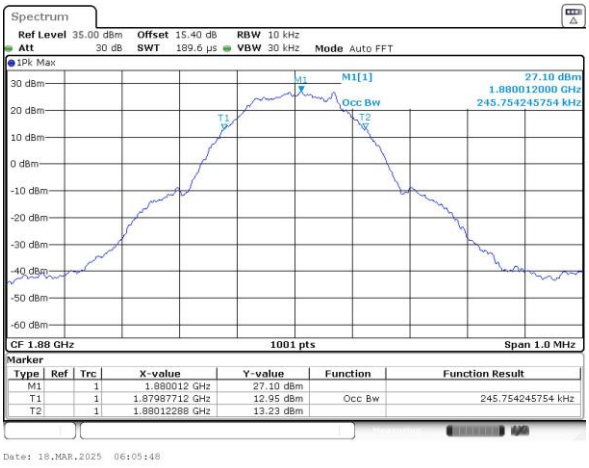
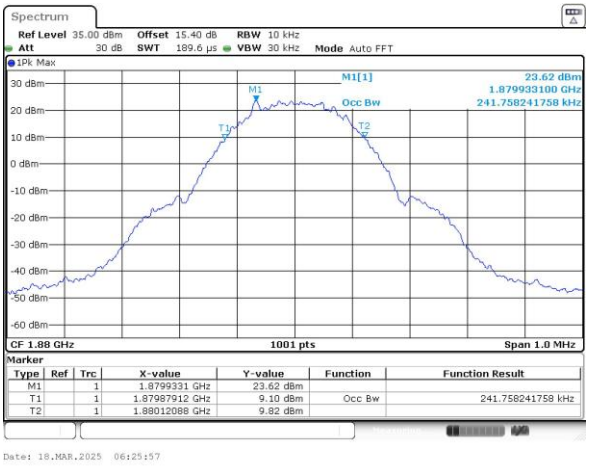
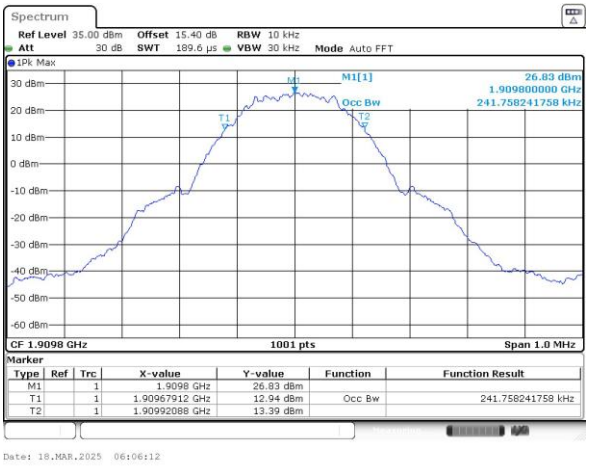
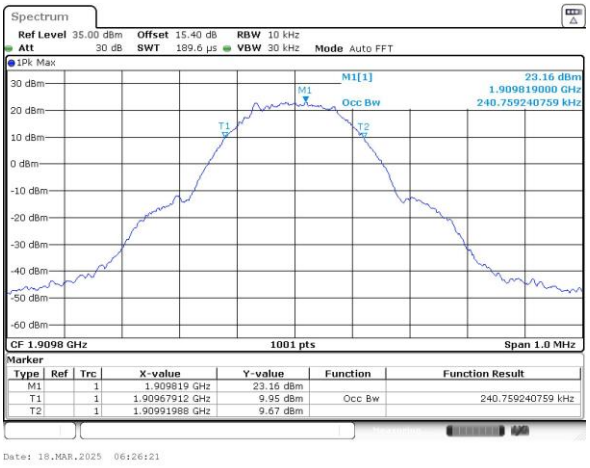


Middle Channel



Highest Channel

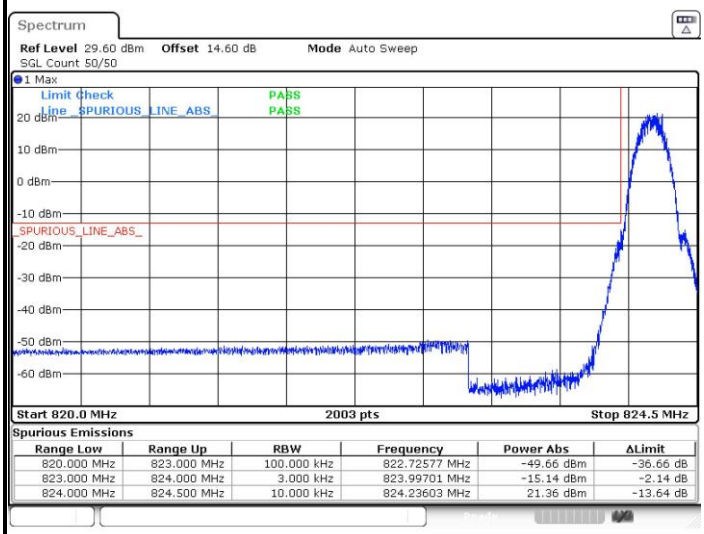


GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Cannel**
	

Conducted Band Edge

GSM850 (GSM)

Lowest Band Edge

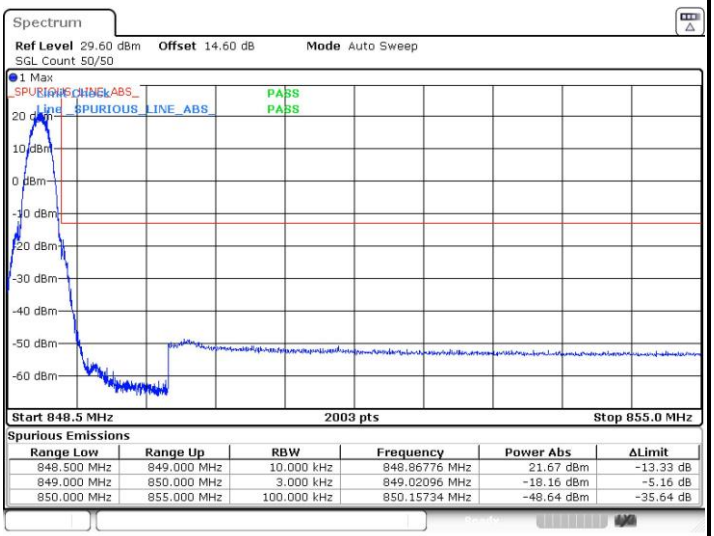


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
820.000 MHz	823.000 MHz	100.000 kHz	822.72577 MHz	-49.66 dBm	-36.66 dB
823.000 MHz	824.000 MHz	3.000 kHz	823.99701 MHz	-15.14 dBm	-2.14 dB
824.000 MHz	824.500 MHz	10.000 kHz	824.23603 MHz	21.36 dBm	-13.64 dB

Date: 18.MAR.2025 05:58:48

Highest Band Edge



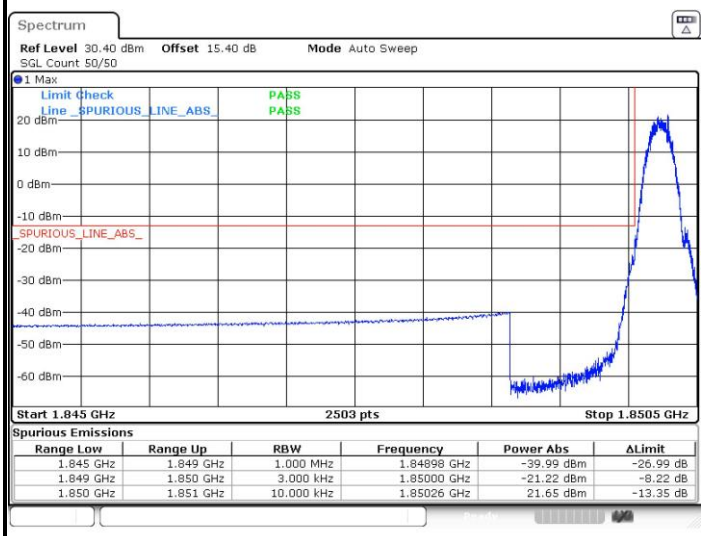
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
848.500 MHz	849.000 MHz	10.000 kHz	848.86776 MHz	21.67 dBm	-13.33 dB
849.000 MHz	850.000 MHz	3.000 kHz	849.02096 MHz	-18.16 dBm	-5.16 dB
850.000 MHz	855.000 MHz	100.000 kHz	850.15734 MHz	-48.64 dBm	-35.64 dB

Date: 18.MAR.2025 06:00:17

GSM850 (EDGE class 8)

Lowest Band Edge

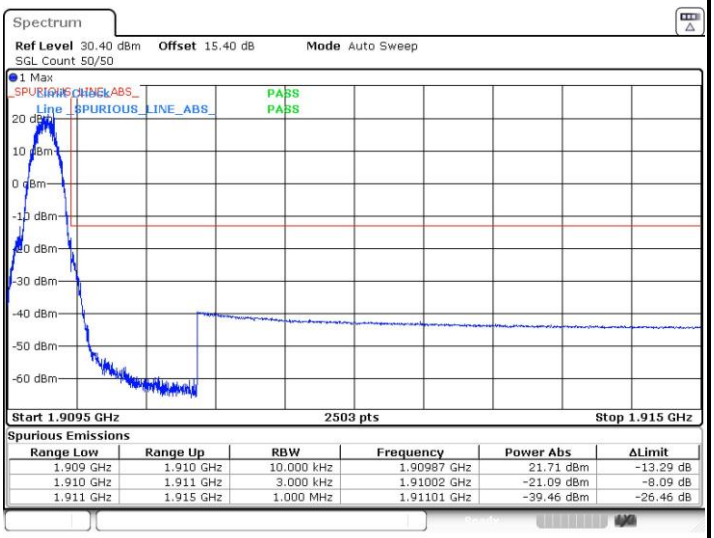


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.845 GHz	1.849 GHz	1.000 MHz	1.84898 GHz	-39.99 dBm	-26.99 dB
1.849 GHz	1.850 GHz	3.000 kHz	1.85000 GHz	-21.22 dBm	-8.22 dB
1.850 GHz	1.851 GHz	10.000 kHz	1.85026 GHz	21.65 dBm	-13.35 dB

Date: 18.MAR.2025 06:11:31

Highest Band Edge



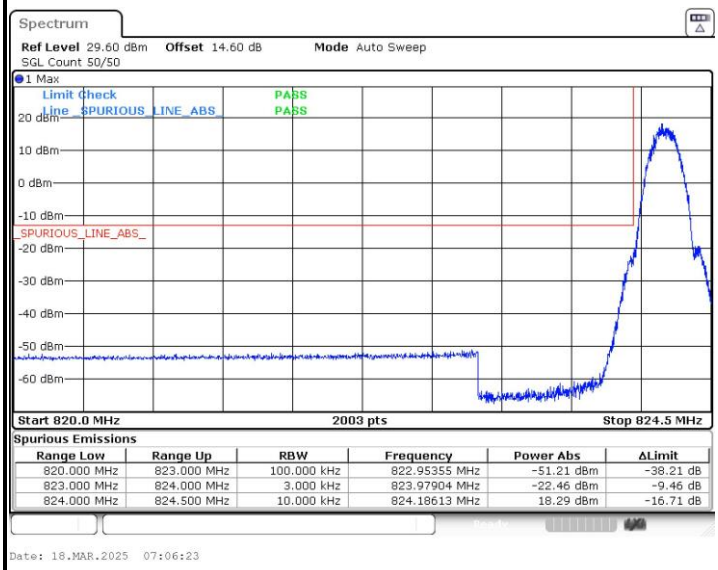
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.909 GHz	1.910 GHz	10.000 kHz	1.90987 GHz	21.71 dBm	-13.29 dB
1.910 GHz	1.911 GHz	3.000 kHz	1.91002 GHz	-21.09 dBm	-8.09 dB
1.911 GHz	1.915 GHz	1.000 MHz	1.91101 GHz	-39.46 dBm	-26.46 dB

Date: 18.MAR.2025 06:13:01

GSM1900 (GSM)

Lowest Band Edge

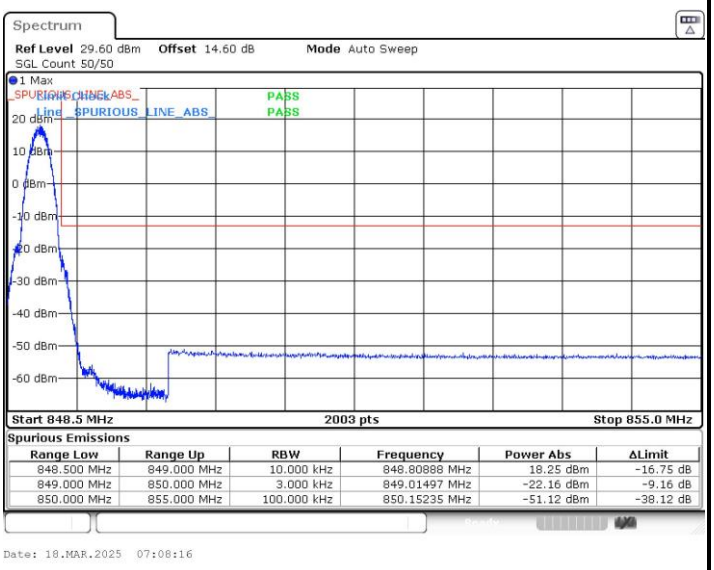


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
820.000 MHz	823.000 MHz	100.000 kHz	822.95355 MHz	-51.21 dBm	-38.21 dB
823.000 MHz	824.000 MHz	3.000 kHz	823.97904 MHz	-22.46 dBm	-9.46 dB
824.000 MHz	824.500 MHz	10.000 kHz	824.18613 MHz	18.29 dBm	-16.71 dB

Date: 18.MAR.2025 07:06:23

Highest Band Edge



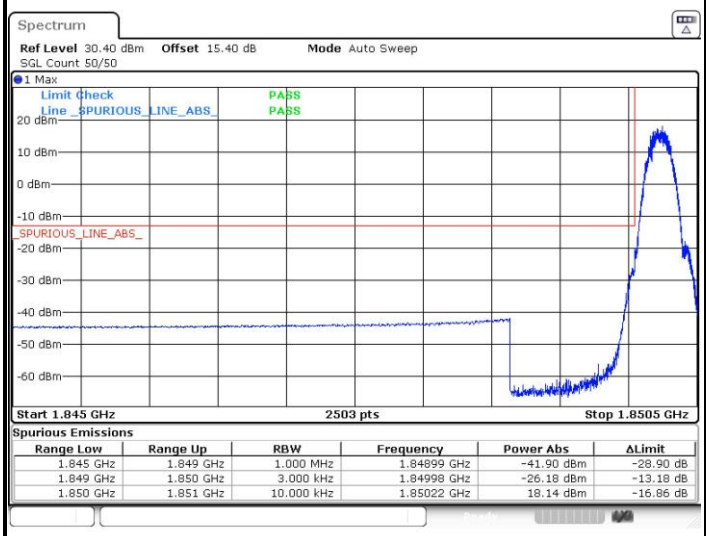
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
848.500 MHz	849.000 MHz	10.000 kHz	848.80888 MHz	18.25 dBm	-16.75 dB
849.000 MHz	850.000 MHz	3.000 kHz	849.01497 MHz	-22.16 dBm	-9.16 dB
850.000 MHz	855.000 MHz	100.000 kHz	850.15235 MHz	-51.12 dBm	-38.12 dB

Date: 18.MAR.2025 07:08:16

GSM1900 (EDGE class 8)

Lowest Band Edge

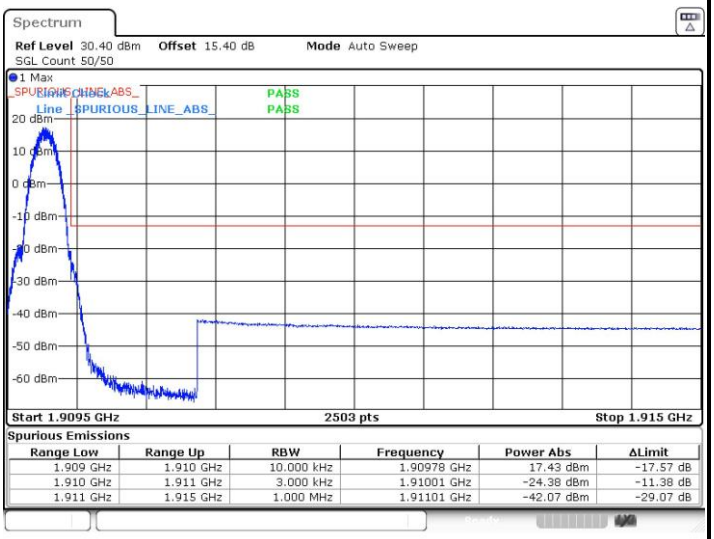


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.845 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-41.90 dBm	-28.90 dB
1.849 GHz	1.850 GHz	3.000 kHz	1.84998 GHz	-26.18 dBm	-13.18 dB
1.850 GHz	1.851 GHz	10.000 kHz	1.85022 GHz	18.14 dBm	-16.86 dB

Date: 18.MAR.2025 06:30:04

Highest Band Edge



Spurious Emissions

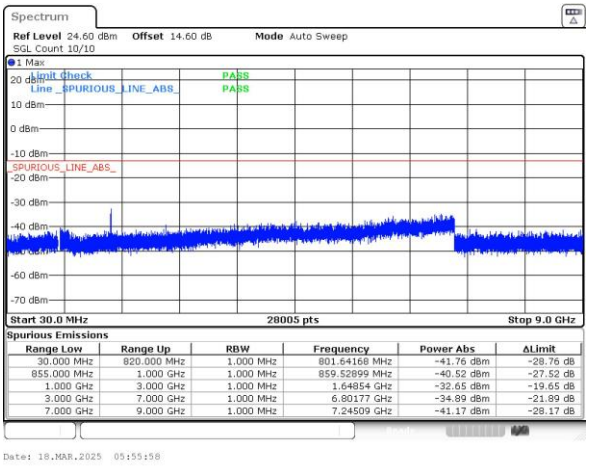
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.909 GHz	1.910 GHz	10.000 kHz	1.90978 GHz	17.43 dBm	-17.57 dB
1.910 GHz	1.911 GHz	3.000 kHz	1.91001 GHz	-24.38 dBm	-11.38 dB
1.911 GHz	1.915 GHz	1.000 MHz	1.91101 GHz	-42.07 dBm	-29.07 dB

Date: 18.MAR.2025 06:31:46

Conducted Spurious Emission

GSM850 (GSM)

Lowest Channel

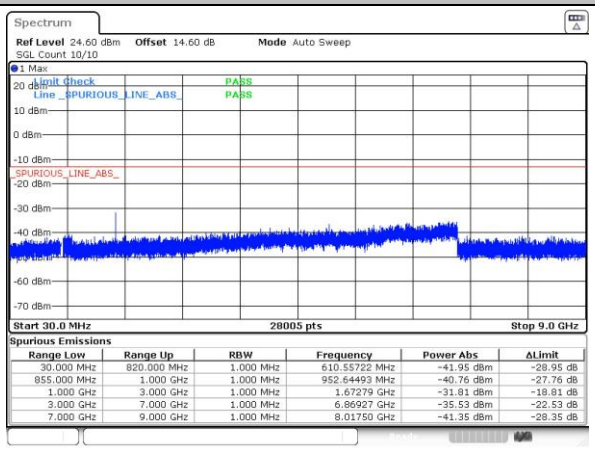


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	801.64168 MHz	-41.76 dBm	-28.76 dB
855.000 MHz	1.000 GHz	1.000 MHz	859.52899 MHz	-40.52 dBm	-27.52 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64854 GHz	-32.65 dBm	-19.65 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.80177 GHz	-34.89 dBm	-21.89 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.24509 GHz	-41.17 dBm	-28.17 dB

Date: 18.MAR.2025 05:55:58

Middle Channel

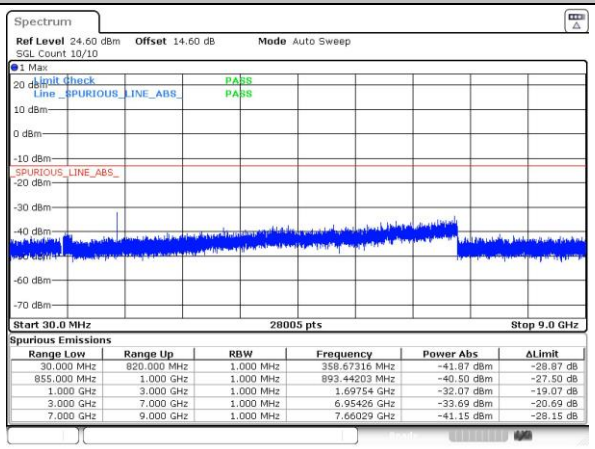


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	610.55722 MHz	-41.95 dBm	-28.95 dB
855.000 MHz	1.000 GHz	1.000 MHz	952.64493 MHz	-40.76 dBm	-27.76 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.67279 GHz	-31.81 dBm	-18.81 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86927 GHz	-35.53 dBm	-22.53 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.01750 GHz	-41.35 dBm	-28.35 dB

Date: 18.MAR.2025 05:56:32

Highest Channel



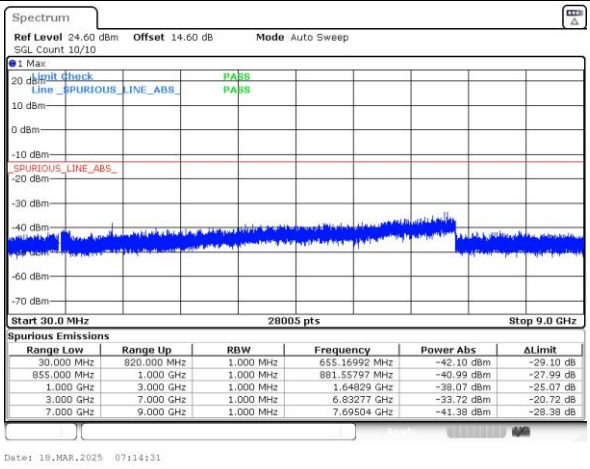
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	358.67316 MHz	-41.87 dBm	-28.87 dB
855.000 MHz	1.000 GHz	1.000 MHz	893.44203 MHz	-40.50 dBm	-27.50 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.69754 GHz	-32.07 dBm	-19.07 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.95426 GHz	-33.69 dBm	-20.69 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.66029 GHz	-41.15 dBm	-28.15 dB

Date: 18.MAR.2025 05:57:05

GSM850 (EDGE class 8)

Lowest Channel

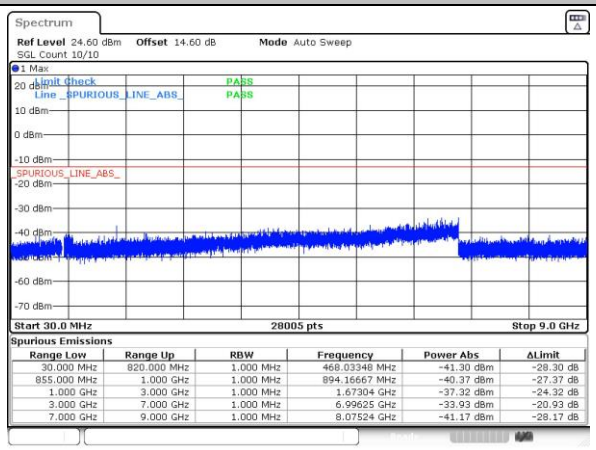


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	655.16992 MHz	-42.10 dBm	-29.10 dB
855.000 MHz	1.000 GHz	1.000 MHz	881.55797 MHz	-40.99 dBm	-27.99 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64829 GHz	-38.07 dBm	-25.07 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.83277 GHz	-33.72 dBm	-20.72 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.69504 GHz	-41.38 dBm	-28.38 dB

Date: 18.MAR.2025 07:14:31

Middle Channel

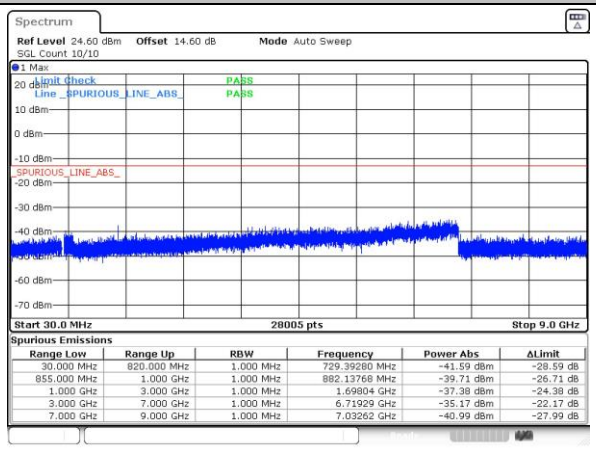


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	468.03348 MHz	-41.30 dBm	-28.30 dB
855.000 MHz	1.000 GHz	1.000 MHz	894.16667 MHz	-40.37 dBm	-27.37 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.67304 GHz	-37.32 dBm	-24.32 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99625 GHz	-33.93 dBm	-20.93 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.07524 GHz	-41.17 dBm	-28.17 dB

Date: 18.MAR.2025 07:15:03

Highest Channel



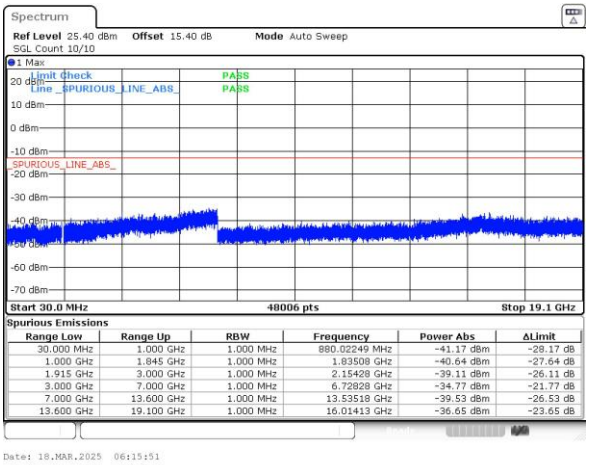
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	729.39280 MHz	-41.59 dBm	-28.59 dB
855.000 MHz	1.000 GHz	1.000 MHz	882.13768 MHz	-39.71 dBm	-26.71 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.69804 GHz	-37.38 dBm	-24.38 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.71929 GHz	-35.17 dBm	-22.17 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.03262 GHz	-40.99 dBm	-27.99 dB

Date: 18.MAR.2025 07:15:36

GSM1900 (GSM)

Lowest Channel

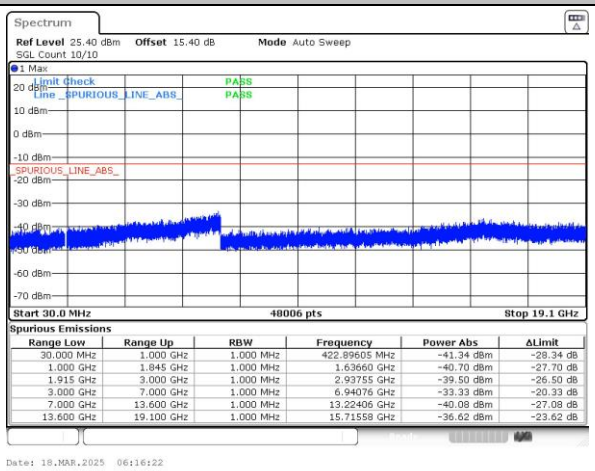


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	880.02249 MHz	-41.17 dBm	-28.17 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.83508 GHz	-40.64 dBm	-27.64 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.15428 GHz	-39.11 dBm	-26.11 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.72828 GHz	-34.77 dBm	-21.77 dB
7.000 GHz	13.600 GHz	1.000 MHz	13.53518 GHz	-39.53 dBm	-26.53 dB
13.600 GHz	19.100 GHz	1.000 MHz	16.01413 GHz	-36.65 dBm	-23.65 dB

Date: 18.MAR.2025 06:15:51

Middle Channel

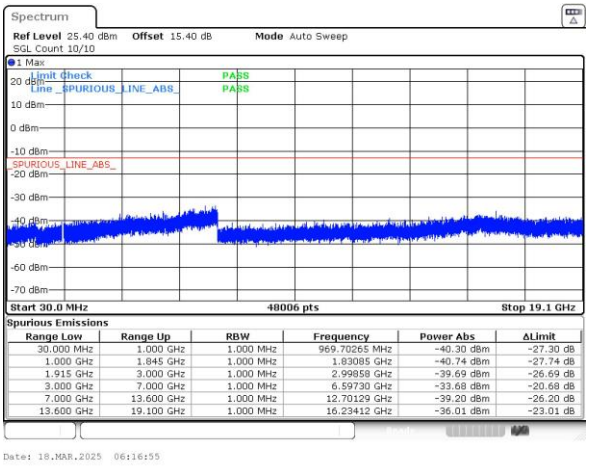


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	422.89605 MHz	-41.34 dBm	-28.34 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.63660 GHz	-40.70 dBm	-27.70 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.93755 GHz	-39.50 dBm	-26.50 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.94076 GHz	-33.33 dBm	-20.33 dB
7.000 GHz	13.600 GHz	1.000 MHz	13.22406 GHz	-40.08 dBm	-27.08 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.71558 GHz	-36.62 dBm	-23.62 dB

Date: 18.MAR.2025 06:16:22

Highest Channel



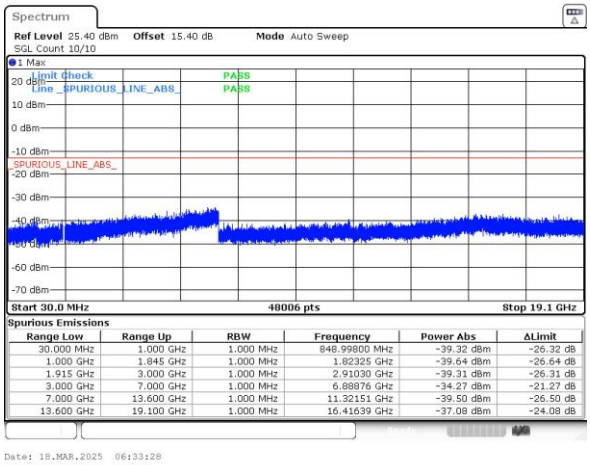
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	969.70265 MHz	-40.30 dBm	-27.30 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.83085 GHz	-40.74 dBm	-27.74 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.99858 GHz	-39.69 dBm	-26.69 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.59730 GHz	-33.68 dBm	-20.68 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.70129 GHz	-39.20 dBm	-26.20 dB
13.600 GHz	19.100 GHz	1.000 MHz	16.23412 GHz	-36.01 dBm	-23.01 dB

Date: 18.MAR.2025 06:16:55

GSM1900 (EDGE class 8)

Lowest Channel

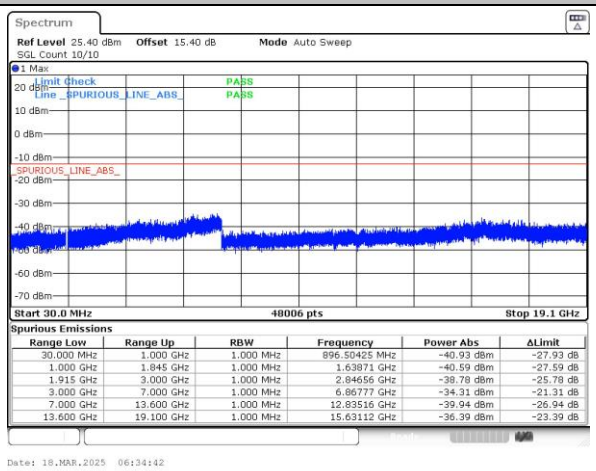


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	848.99800 MHz	-39.32 dBm	-26.32 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.82325 GHz	-39.64 dBm	-26.64 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.91030 GHz	-39.31 dBm	-26.31 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88876 GHz	-34.27 dBm	-21.27 dB
7.000 GHz	13.600 GHz	1.000 MHz	11.32151 GHz	-39.50 dBm	-26.50 dB
13.600 GHz	19.100 GHz	1.000 MHz	16.41639 GHz	-37.08 dBm	-24.08 dB

Date: 18.MAR.2025 06:33:28

Middle Channel

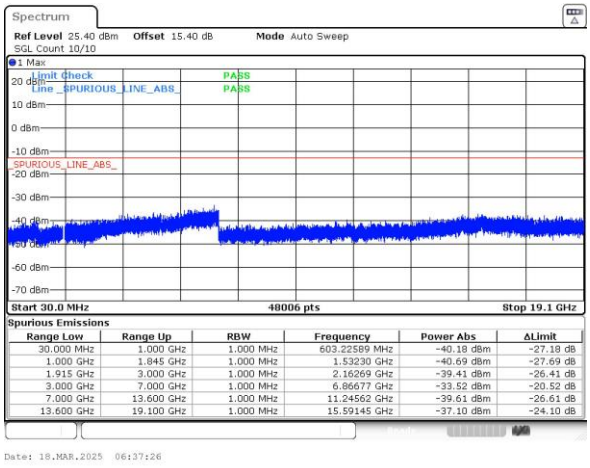


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	896.50425 MHz	-40.93 dBm	-27.93 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.63871 GHz	-40.59 dBm	-27.59 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.84656 GHz	-38.78 dBm	-25.78 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86777 GHz	-34.31 dBm	-21.31 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.83516 GHz	-39.94 dBm	-26.94 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.63112 GHz	-36.39 dBm	-23.39 dB

Date: 18.MAR.2025 06:34:42

Highest Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	603.22589 MHz	-40.18 dBm	-27.18 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.53230 GHz	-40.69 dBm	-27.69 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.16269 GHz	-39.41 dBm	-26.41 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86677 GHz	-33.52 dBm	-20.52 dB
7.000 GHz	13.600 GHz	1.000 MHz	11.24562 GHz	-39.61 dBm	-26.61 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.59145 GHz	-37.10 dBm	-24.10 dB

Date: 18.MAR.2025 06:37:26

Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0025	0.0044	PASS
40	Normal Voltage	0.0089	0.0095	
30	Normal Voltage	0.0065	0.0074	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0088	0.0231	
0	Normal Voltage	0.0149	0.0255	
-10	Normal Voltage	0.0069	0.0195	
-20	Normal Voltage	0.0215	0.0144	
-30	Normal Voltage	0.0092	0.0362	
20	Maximum Voltage	0.0066	0.0241	
20	Normal Voltage	0.0295	0.0049	
20	Battery End Point	0.0249	0.0146	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0049	0.0144	PASS
40	Normal Voltage	0.0059	0.0259	
30	Normal Voltage	0.0055	0.0147	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0165	0.0295	
0	Normal Voltage	0.0177	0.0432	
-10	Normal Voltage	0.0322	0.0095	
-20	Normal Voltage	0.0236	0.0058	
-30	Normal Voltage	0.0095	0.0228	
20	Maximum Voltage	0.0095	0.0146	
20	Normal Voltage	0.0048	0.0088	
20	Battery End Point	0.0425	0.0147	

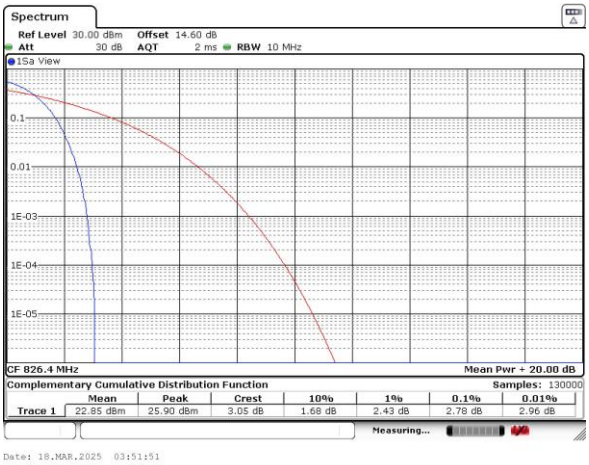
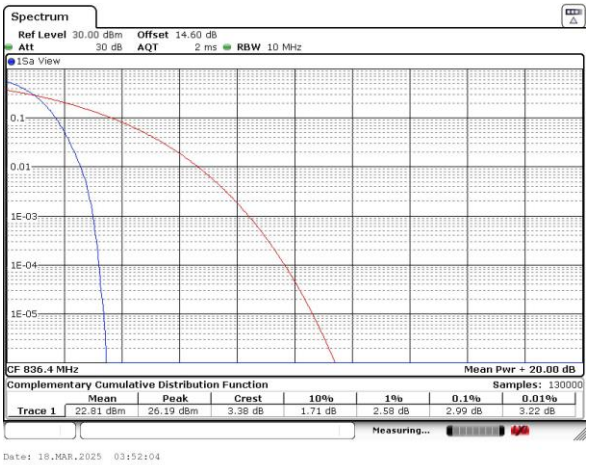
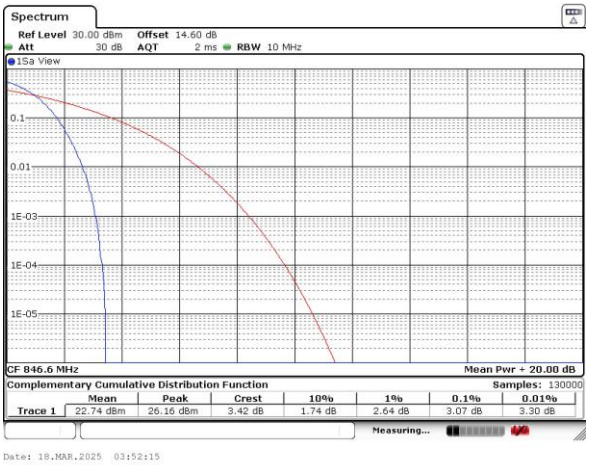
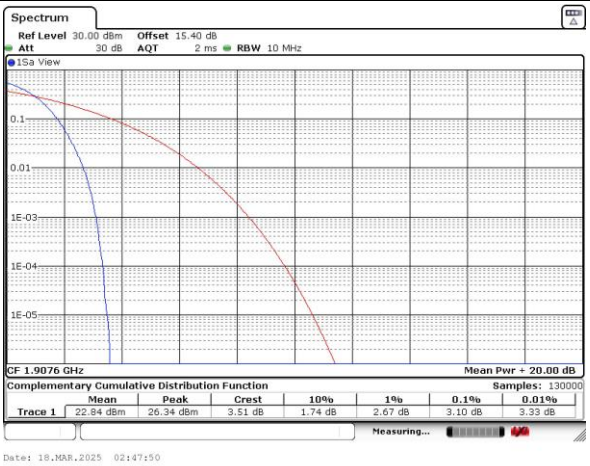
Note:

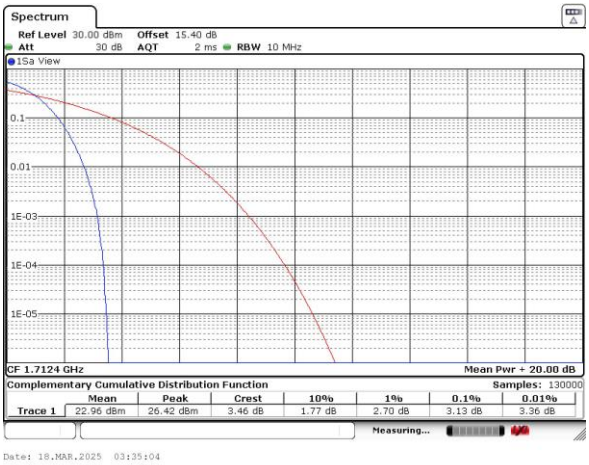
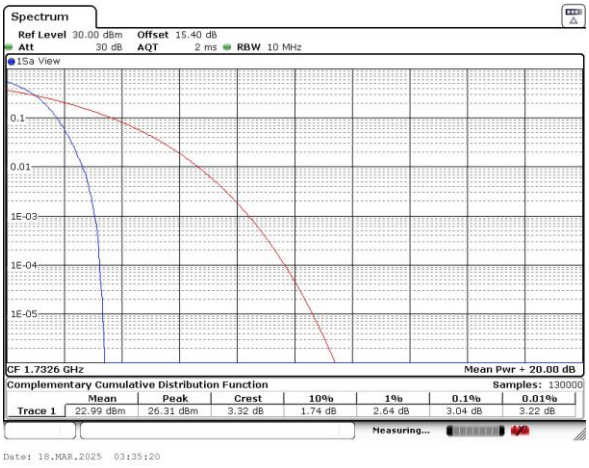
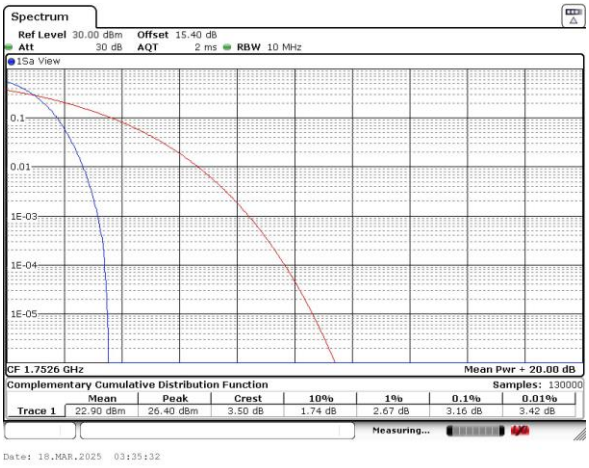
1. Normal Voltage = 3.91V ； Battery End Point (BEP) =3.6V.； Maximum Voltage =4.5V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

A2. WCDMA

Peak-to-Average Ratio

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	2.78	3.13	3.13	PASS
Middle CH	2.99	3.19	3.04	
Highest CH	3.07	3.10	3.16	

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

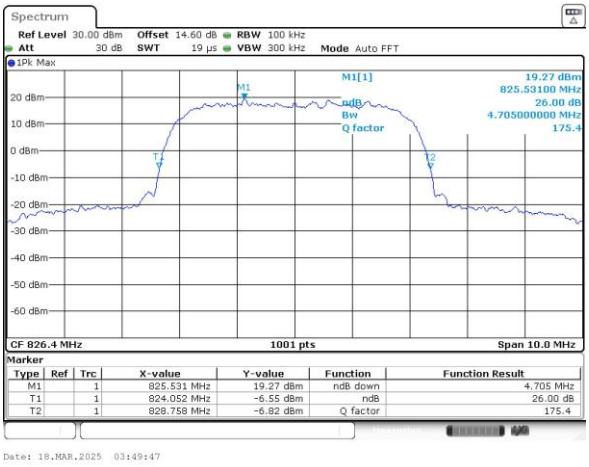
WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

26dB Bandwidth

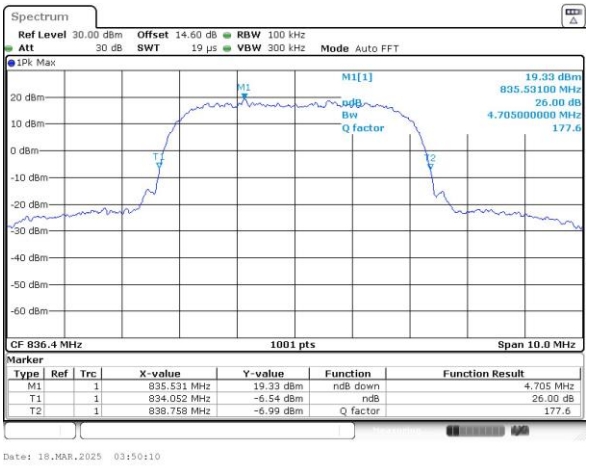
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.705MHz	4.695MHz	4.685MHz
Middle CH	4.705MHz	4.685MHz	4.685MHz
Highest CH	4.685MHz	4.695MHz	4.685MHz

WCDMA Band V (RMC 12.2Kbps)

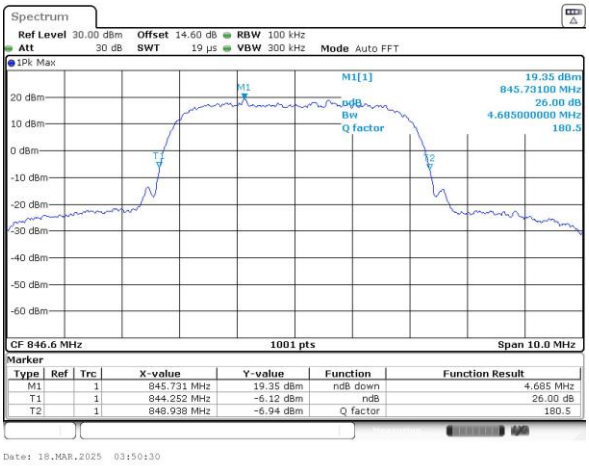
Lowest Channel



Middle Channl

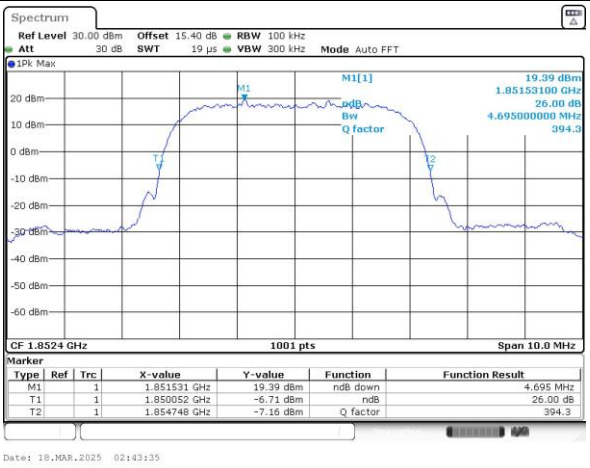


Highest Channel

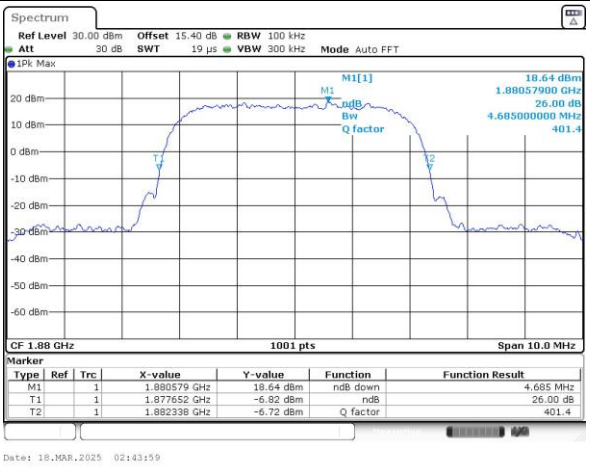


WCDMA Band II (RMC 12.2Kbps)

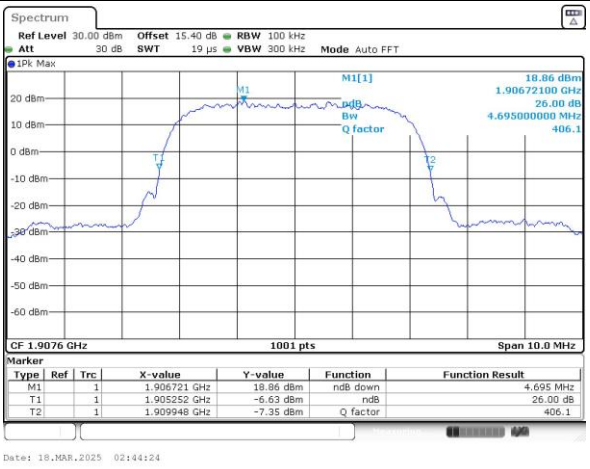
Lowest Channel



Middle Channel

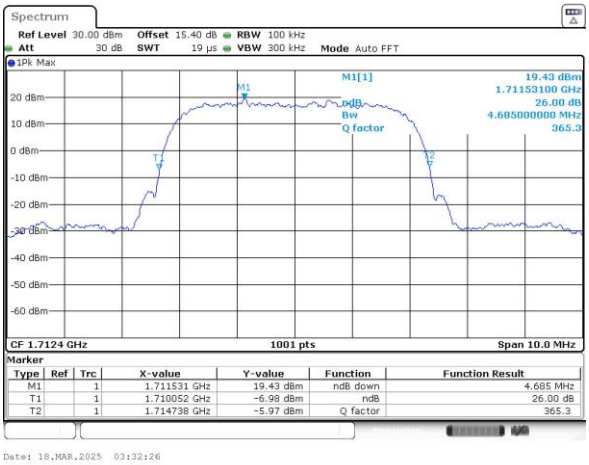


Highest Channel

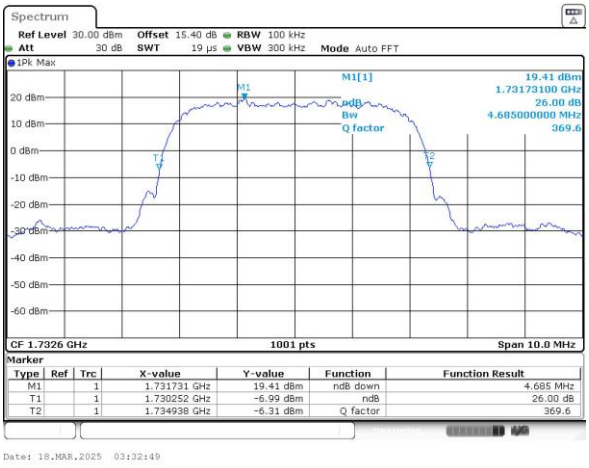


WCDMA Band IV (RMC 12.2Kbps)

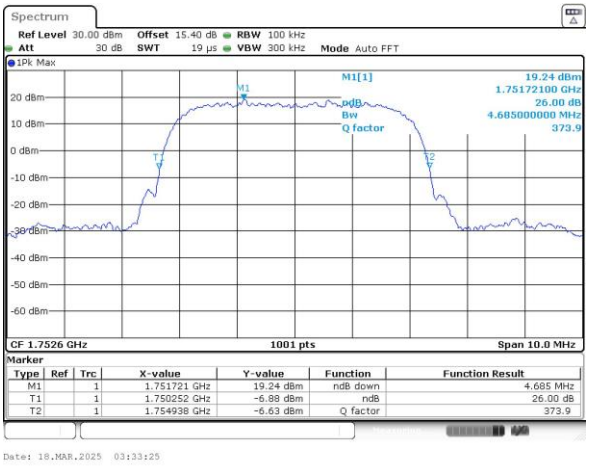
Lowest Channel



Middle Channel

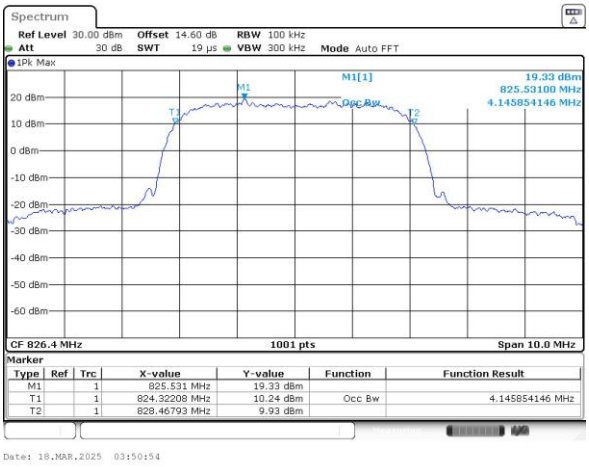
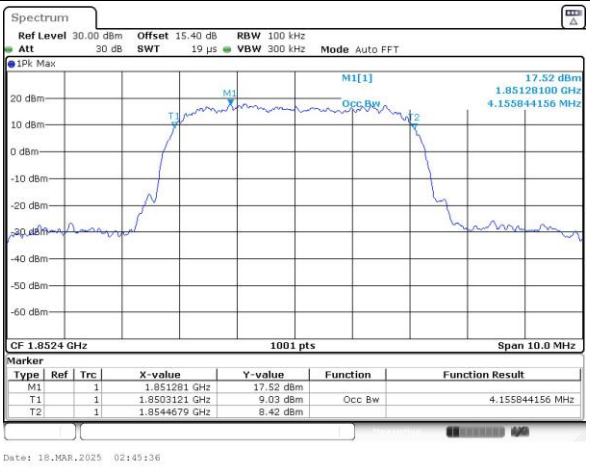
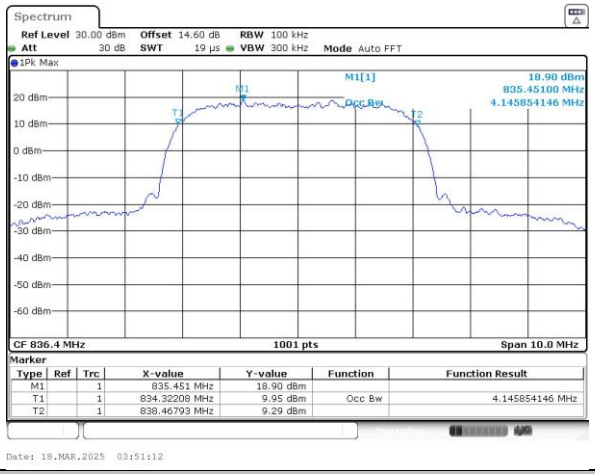
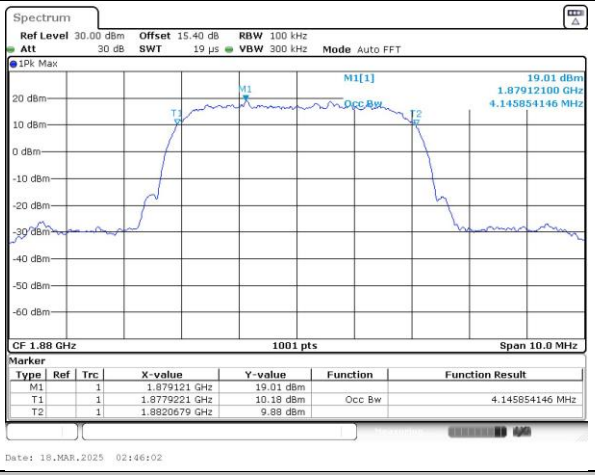
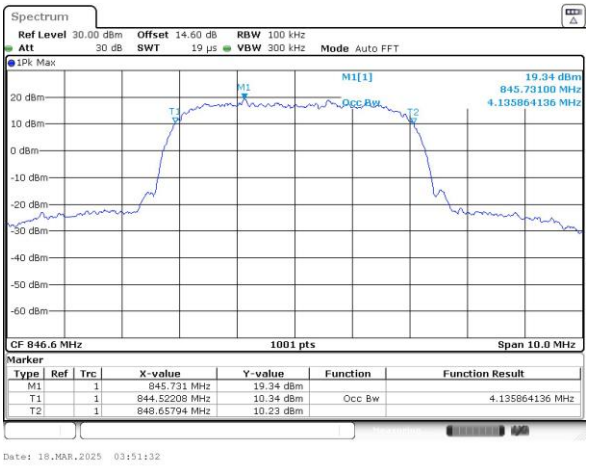
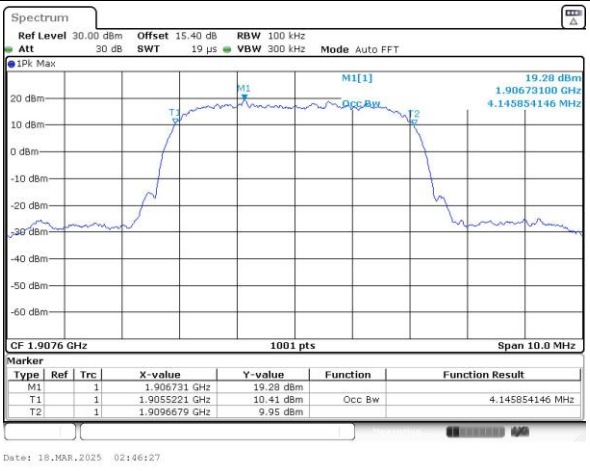


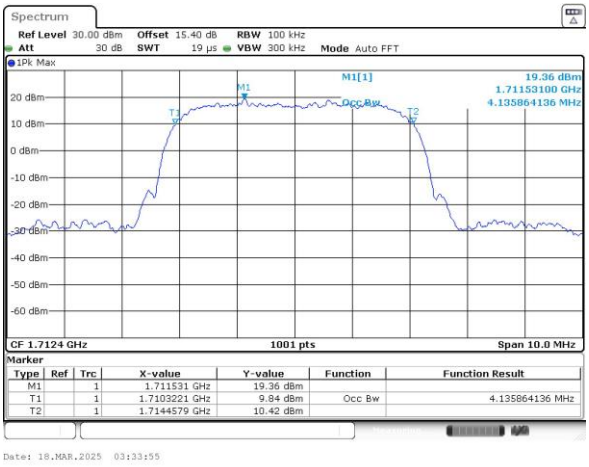
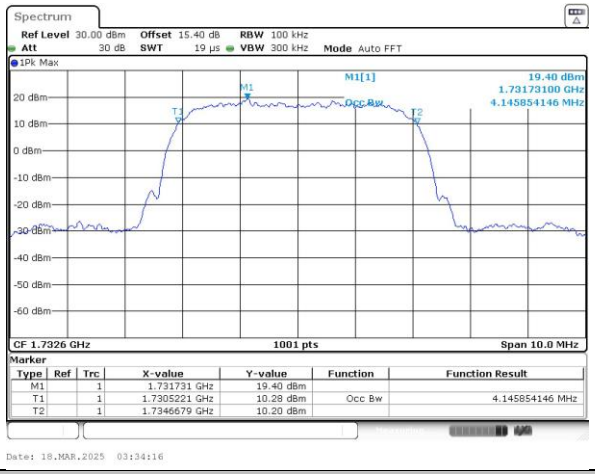
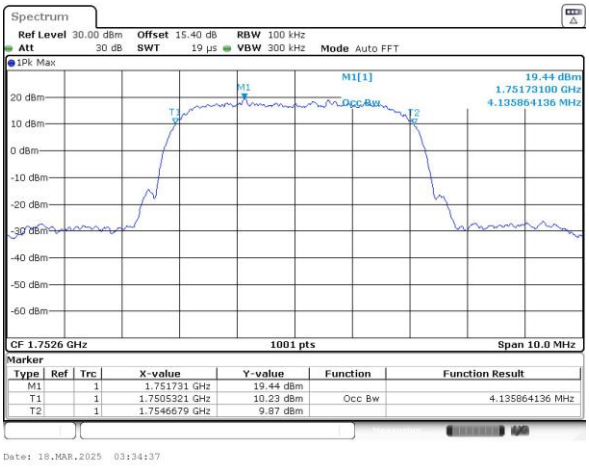
Highest Channel



Occupied Bandwidth

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.146MHz	4.156MHz	4.136MHz
Middle CH	4.146MHz	4.146MHz	4.146MHz
Highest CH	4.136MHz	4.146MHz	4.136MHz

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel