

CFR 47 FCC PART 22 H CFR 47 FCC PART 24 E CFR 47 FCC PART 27

TEST REPORT

For

MD-PH-001

MODEL NUMBER: MD-PH-001

REPORT NUMBER: 4791159315-3-RF-7

ISSUE DATE: July 31, 2024

FCC ID: 2AY45-MD-PH-001

Prepared for

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Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	July. 31, 2024	Initial Issue	\

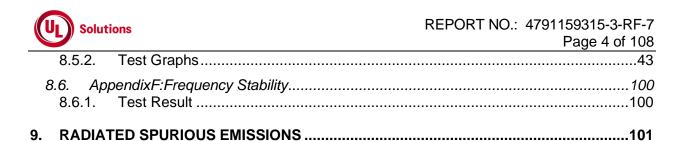
Note:

- 1. This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
- 2. The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 22 H >< CFR 47 FCC PART 24 E>< CFR 47 FCC PART 27> when < Simple Acceptance > decision rule is applied.



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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Chengdu Shuiyueyu Technology Co., Ltd.

Address: 4th Floor, Building 2, No. 606, West Section of Haike Road,

Chengdu Cross-Strait Science and Technology Industrial

Development Park, Wenjiang District, Chengdu

Manufacturer Information

Company Name: Chengdu Shuiyueyu Technology Co., Ltd.

Address: 4th Floor, Building 2, No. 606, West Section of Haike Road,

Chengdu Cross-Strait Science and Technology Industrial

Development Park, Wenjiang District, Chengdu

EUT Information

EUT Name: MD-PH-001 Model: MD-PH-001

Brand:

Sample Received Date: Mar. 21, 2024

Sample Status: Normal Sample ID: 7236063

Date of Tested: March 22, 2024 to July 31, 2024

APPLICABLE STANDARDS						
STANDARD	TEST RESULTS					
CFR 47 FCC PART 22 H	PASS					
CFR 47 FCC PART 24 E	PASS					
CFR 47 FCC PART 27	PASS					

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Approved By:

Stephen Guo

Operations Manager



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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.26-2015, 971168 D01 Power Meas License Digital Systems v03r01, 971168 D02 Misc Rev Approv License Devices v02r01, 412172 D01 v01r01 Determining ERP and EIRP, CFR 47 FCC Part 2, Part 22 H, Part 24 E, Part 27.

3. FACILITIES AND ACCREDITATION

	A2LA (Certificate No.: 4102.01)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with A2LA.
	FCC (FCC Designation No.: CN1187)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	Has been recognized to perform compliance testing on equipment subject
	to the Commission's Delcaration of Conformity (DoC) and Certification
	rules
	ISED (Company No.: 21320)
Accreditation	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Certificate	has been registered and fully described in a report filed with ISED.
	The Company Number is 21320 and the test lab Conformity Assessment
	Body Identifier (CABID) is CN0046.
	VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with VCCI, the
	Membership No. is 3793.
	Facility Name:
	Chamber D, the VCCI registration No. is G-20192 and R-20202.
	Shielding Room B, the VCCI registration No. is C-20153 and T-20155.

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.



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4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty		
Conduction emission	3.62 dB		
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB		
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB		
	5.78 dB (1 GHz-18 GHz)		
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.23dB (18 GHz-26 GHz)		
(11010000 1 011001011) (1 0112 10 10 0112)	5.64 dB (26 GHz-40 GHz)		
Bandwidth	1.1 %		

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.



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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name:	MD-PH-001
Model:	MD-PH-001

5.2. **TEST CHANNEL CONFIGURATION**

Band	Mode	Low	Middle	High
WCDMA Band 2	HSDPA/HSUPA	9262	9400	9538
WCDIVIA Bariu 2	HODPA/HOUPA	1852.4 MHz	1880.0 MHz	1907.6 MHz
WCDMA Band 4	HSDPA/HSUPA	1312	1413	1513
WCDIVIA Dariu 4	NSDFA/NSUFA	1712.4 MHz	1732.6 MHz	1752.6 MHz
WCDMA Band 5	HSDPA/HSUPA	4132	4182	4233
WCDIVIA Ballu 3	HODEA/HODEA	826.4 MHz	836.4 MHz	846.6 MHz



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5.3. MAXIMUM ERP/EIRP POWER AND EMISSION DESIGNATOR

WCDMA Band2

Part 24						
EIRP Limit(W)	2.0					
Antenna Gain (dBi)	0.78					
Mode		Frequency Range (MHz)	Conducted Average power (dBm)	EIRP (W)	99% OBW (MHz)	Emission Designator
REL99			23.05	0.24	4.138	4M14F9W
HSDPA		1852.4 ~ 1907.6	21.74	0.18	4.143	4M14F9W
HSUPA			20.76	0.14	4.145	4M15F9W

WCDMA Band4

Part 27		_				
EIRP Limit(W)	1.0					
Antenna Gain (dBi)	0.75					
Mode		Frequency Range (MHz)	Conducted Average power (dBm)	EIRP (W)	99% OBW (MHz)	Emission Designator
REL99			22.57	0.21	4.145	4M16F9W
HSDPA		1712.4 ~ 1752.6	21.75	0.18	4.141	4M14F9W
HSUPA			20.63	0.14	4.142	4M14F9W

WCDMA Band5

Fail 22		_				
ERP Limit(W) 7.0						
Antenna Gain (dBi)	-0.23					
Mode		Frequency Range (MHz)	Conducted Average power (dBm)	ERP (W)	99% OBW (MHz)	Emission Designator
REL99			23.57	0.13	4.152	4M15F9W
HSDPA		826.4 ~ 846.6	22.89	0.11	4.156	4M16F9W
HSUPA			21.81	0.09	4.151	4M15F9W



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5.4. WORST-CASE CONFIGURATION AND MODE

The radiated spurious emissions measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that X orientation was the worst-case orientation.

Radiated spurious emissions were investigated below 30 MHz, 30 MHz - 1 GHz and above 1 GHz. There were no emissions found on below 1GHz and above 18 GHz, the emissions between 1 GHz – 18 GHz were tested at the low, mid, high channel and the worst configuration. Only the worst result is reported.



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5.5. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Band	Antenna Type	MAX Antenna Gain (dBi)
Ant0	WCDMA Band 2	FPC	0.78
Ant0	WCDMA Band 4	FPC	0.75
Ant0	WCDMA Band 5	FPC	-0.23

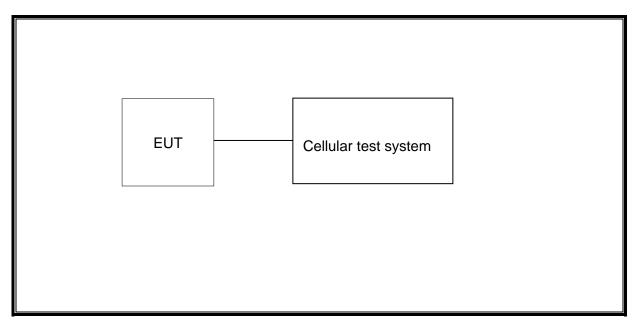
Band	Transmit and Receive Mode	Description
WCDMA Band 2	⊠1TX, 2RX	Ant0 antenna can be used as transmitting/receiving antenna, DIV antenna can be used as receiving antenna
WCDMA Band 4	⊠1TX, 2RX	Ant0 antenna can be used as transmitting/receiving antenna, DIV antenna can be used as receiving antenna
WCDMA Band 5	⊠1TX, 2RX	Ant0 antenna can be used as transmitting/receiving antenna, DIV antenna can be used as receiving antenna

Note: The value of the antenna gain was declared by customer.

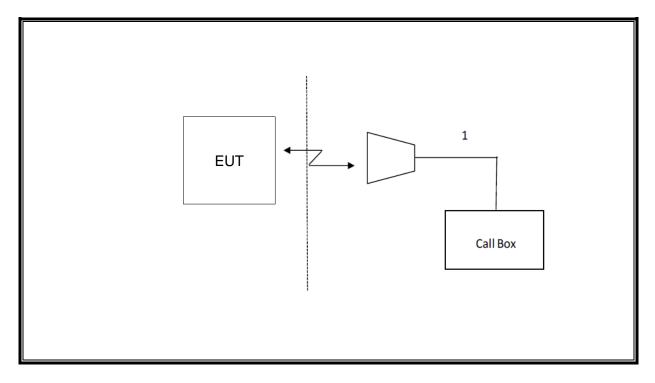


5.6. DESCRIPTION OF TEST SETUP

Conducted



Radiated





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6. MEASURING INSTRUMENT AND SOFTWARE USED

6. M	6. MEASURING INSTRUMENT AND SOFTWARE USED							
	Antenna Terminal Test							
			Inst	trumen	t			
Used	Equipment	Manufacturer	Mod	lel No.	Se	erial No.	Last Cal.	Next Cal.
V	Spectrum Analyzer	R&S	FS	SV40	S42	2060001	Oct.12, 2023	Oct.11, 2024
\checkmark	Wideband Radio Communication Tester	R&S	СМ	W500	1	55523	Oct.12, 2023	Oct.11, 2024
			So	ftware				
Used	Descript	tion	Mai	nufactu	ırer	ı	Name	Version
V	Tonsend Cellular	Test System	Т	onsen	b		RF Auto Test system	3.1.46
		F	Radia	ated Te	est			
	Instrument							
Used	Equipment	Manufacturer	Mod	lel No.	Se	erial No.	Last Cal.	Next Cal.
	MXE EMI Receiver	KESIGHT	N9	038A	MY5	56400036	Oct.12, 2023	Oct.11, 2024
V	Hybrid Log Periodic Antenna	TDK		LP- 003C	1	30959	Aug.02, 2021	Aug.01, 2024
V	Preamplifier	HP	84	47D	294	4A09099	Oct.12, 2023	Oct.11, 2024
V	EMI Measurement Receiver	R&S	ES	SR26	1	01377	Oct.12, 2023	Oct.11, 2024
$\overline{\checkmark}$	Horn Antenna	TDK	HRN	N-0118	1	30940	July 20, 2021	July 19, 2024
V	Horn Antenna	Schwarzbeck	ввн	A9170		697	July 20, 2021	July 19, 2024
V	Preamplifier	TDK		\-02- 118		RS-305- 00067	Oct.12, 2023	Oct.11, 2024
V	Preamplifier	TDK	PA	-02-2		RS-307- 00003	Oct.12, 2023	Oct.11, 2024
$\overline{\checkmark}$	Loop antenna	Schwarzbeck	15	19B	(80000	Dec.14, 2021	Dec.13, 2024
V	High Pass Filter	Wi	27 30 18	KX10- 700- 000- 000- 0SS		23	Oct.12, 2023	Oct.11, 2024
	Software							
Used	sed Description Manufacturer Name			Name	Version			
V	Test Software for R	adiated disturba	ance	Fa	rad		EZ-EMC	Ver. UL-3A1

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7. ANTENNA TERMINAL TEST RESULTS

7.1. EFFECTIVE (ISOTROPIC) RADIATED POWER OF TRANSMITTER

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27.50

LIMITS

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50(c) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP. 27.50(d) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watts EIRP.

27.50(h) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

TEST PROCEDURE

Refer to ANSI C63.26:2015 and KDB 971168 D01 Section 5.6 ERP/ EIRP = PMeas + GT - LC

where:

ERP or EIRP = effective or equivalent isotropically radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

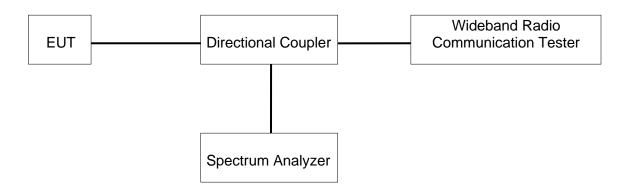
PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

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

The transmitter has a maximum radiated ERP / EIRP output powers as follows:

TEST SETUP





TEST ENVIRONMENT

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Temperature	23.6°C	Relative Humidity	54.1%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.87 V

RESULTS

Please refer to Appendix A.



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7.2. PEAK TO AVERAGE RADIO

LIMITS

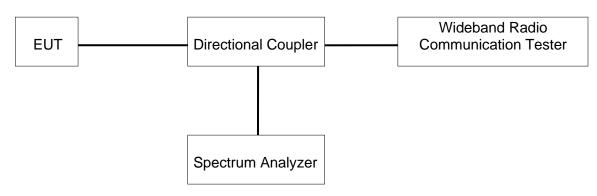
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01;

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The PAR was measured on the Spectrum Analyzer.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.6°C	Relative Humidity	54.1%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.87 V

RESULTS

Middle was used to measure as the worst case. The results from all CCDF plots are passed with 13dB peak-to-average power ratio criteria.

Please refer to Appendix B.



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7.3. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

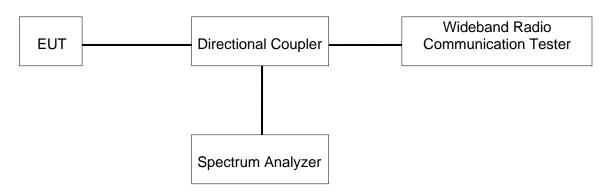
For reporting purposes only.

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01)

TEST SETUP



TEST ENVIRONMENT

Temperature	23.6°C	Relative Humidity	54.1%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.87 V

RESULTS

There is no limit required and power is the same for low, middle and high channel, therefore, only middle channel was tested.

Please refer to Appendix C.



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7.4. BAND EDGE EMISSIONS

RULE PART(S)

FCC §2.1051, §22.917, §24.238, §27.53

LIMITS

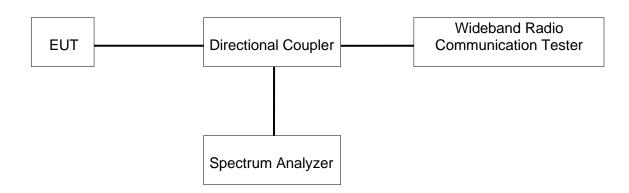
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01 The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

- a) Set the RBW = 1 ~ 1.5 % of OBW (Typically limited to a minimum RBW of 1% of the OBW)
- b) Set VBW ≥ 3 × RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = Auto;
- e) Detector = RMS;
- f) Ensure that the number of measurement points ≥ 2*Span/RBW;
- g) Trace mode = Average (100);

TEST SETUP



TEST ENVIRONMENT

Temperature	23.6°C	Relative Humidity	54.1%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.87 V

RESULTS

Please refer to Appendix D.

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7.5. SPURIOUS EMISSION AT ANTENNA TERMINAL

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53

LIMITS

FCC: §22.901, §22.917, §24.238

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

TEST PROCEDURE

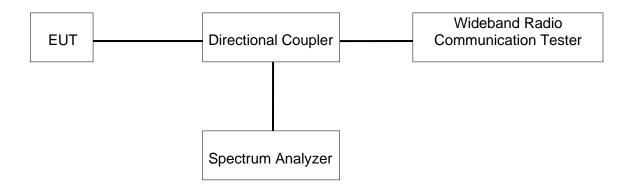
Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- a) Set the RBW = 100 kHz for emission below 1GHz and 1MHz for emissions above 1GHz (Tests were performed 1 MHz [Worst case], to sweep 1 time for all frequency range)
- b) Set VBW ≥ 3 × RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = auto couple;
- e) Detector = rms;
- f) Ensure that the number of measurement points = Max (40001);
- g) Trace mode = average (LTE 5), Maxhold (LTE Band7);

Note: Please refer to section 5.4 for bandwidth and RB setting about LTE bands.

TEST SETUP





TEST ENVIRONMENT

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Temperature	23.6°C	Relative Humidity	54.1%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.87 V

RESULTS

Please refer to Appendix E.



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7.6. FREQUENCY STABILITY

Rule Part:

FCC: §2.1055, §22.355, §24.235, §27.54

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

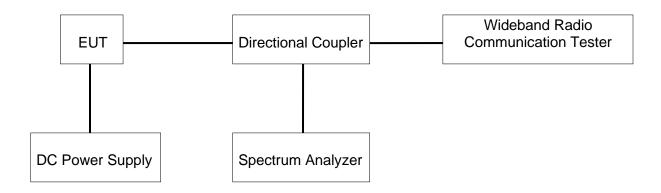
§24.235 and §27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

	Normal Test Conditions	Extreme Test Conditions		
Relative Humidity	45 % - 75 %	/		
Atmospheric Pressure	100 kPa ~102 kPa	/		
Temperature	T _N (Normal Temperature):	T _L (Low Temperature): -30 °C		
	24.7 °C	T _H (High Temperature): 50 °C		
Cupply Voltage	V _N (Normal Voltage):	V _L (Low Voltage): DC 3.3V		
Supply Voltage	DC 3.87 V	V _H (High Voltage): DC 4.5 V		

TEST SETUP



TEST ENVIRONMENT

Temperature	23.6°C	Relative Humidity	54.1%
Atmosphere Pressure	101kPa	Test Voltage	/

RESULTS

The peak frequency error is recorded (worst-case).

Please refer to Appendix F.



8. APPENDIX

8.1. AppendixA: Effective (Isotropic) Radiated Power Output Data 8.1.1. Test Result

Band 2		Av	Average Power (dBm)			
		9262CH	9400CH	9538CH		
WCDMA	12.2kbps RMC	22.35	23.05	22.73		
	Subtest 1	21.65	21.74	21.37		
HSDPA	Subtest 2	21.68	21.73	21.34		
	Subtest 3	21.63	21.71	21.35		
	Subtest 4	21.68	21.74	21.38		
	Subtest 1	19.63	19.67	19.30		
	Subtest 2	19.63	19.65	19.30		
HSUPA	Subtest 3	19.67	20.73	19.35		
	Subtest 4	19.15	19.21	18.85		
	Subtest 5	20.66	20.76	20.36		

Band 4		Average Power (dBm)			
		1312CH	1413CH	1513CH	
WCDMA	12.2kbps RMC	21.79	21.94	22.57	
	Subtest 1	21.63	21.69	21.75	
Церва	Subtest 2	21.61	21.71	21.74	
HSDPA	Subtest 3	21.62	21.67	21.75	
	Subtest 4	21.62	21.69	21.75	
	Subtest 1	19.50	20.10	20.14	
	Subtest 2	19.51	19.57	19.63	
HSUPA	Subtest 3	19.50	19.60	19.64	
	Subtest 4	19.01	19.14	19.16	
	Subtest 5	20.53	20.60	20.63	

Band 5		Average Power (dBm)		
		4132CH	4182CH	4233CH
WCDMA	12.2kbps RMC	23.57	23.53	23.52
	Subtest 1	22.82	22.89	22.83
HSDPA	Subtest 2	22.82	22.89	22.82
	Subtest 3	22.82	22.89	22.92
	Subtest 4	22.84	22.88	22.88
	Subtest 1	20.78	21.33	21.34
	Subtest 2	20.77	20.83	20.84
HSUPA	Subtest 3	21.78	21.86	20.84
	Subtest 4	20.28	20.34	20.35
	Subtest 5	21.76	21.81	21.83

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8.2. AppendixB:Peak-to-Average Ratio 8.2.1. Test Result

REL99:

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	3.12	13	PASS
Band4	1413	3.14	13	PASS
Band5	4182	3.10	13	PASS

HSDPA:

Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	4	3.24	13	PASS
Band4	1413	4	3.2	13	PASS
Band5	4182	4	3.12	13	PASS

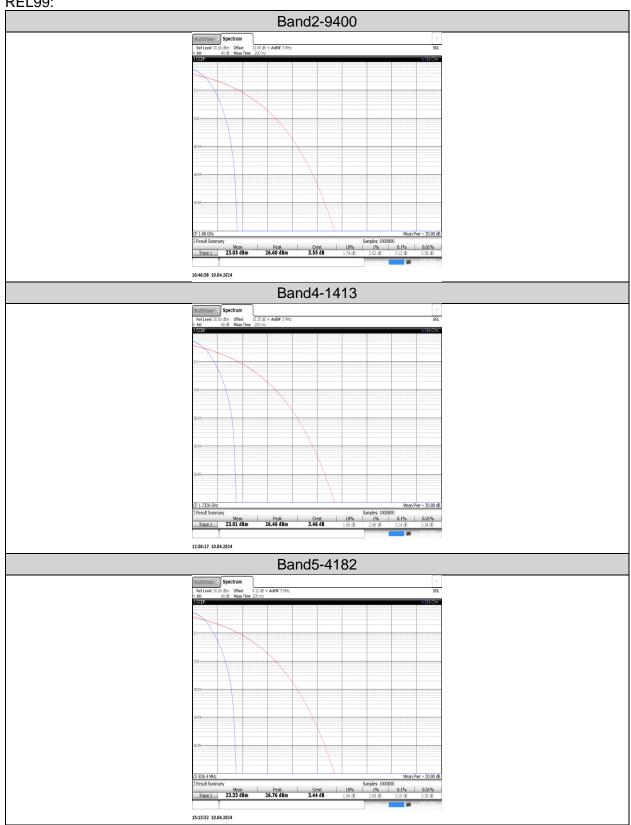
HSUPA:

Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	5	4.32	13	PASS
Band4	1413	5	4.26	13	PASS
Band5	4182	5	4.20	13	PASS

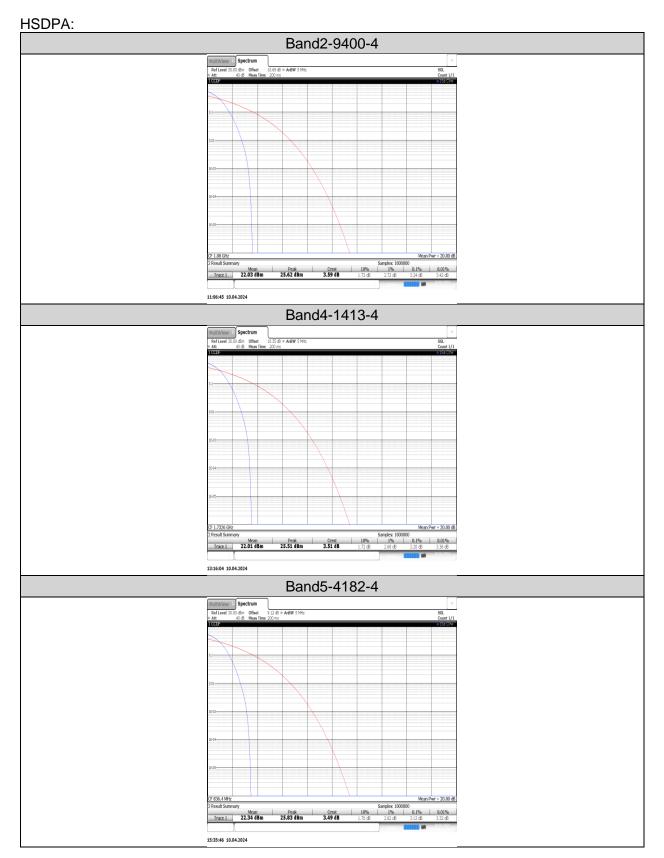


8.2.1. Test Graphs

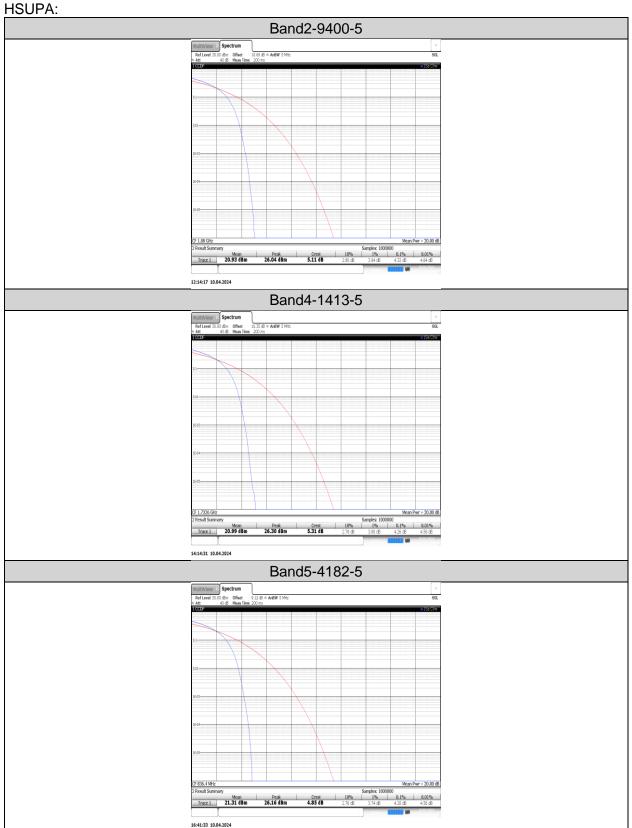
REL99:











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8.3. AppendixC:26dB Bandwidth and Occupied Bandwidth 8.3.1. Test Result

REL99:

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	4.138	4.70		PASS
Band4	1413	4.145	4.69		PASS
Band5	4182	4.152	4.71		PASS

HSDPA:

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	4	4.143	4.70		PASS
Band4	1413	4	4.141	4.71		PASS
Band5	4182	4	4.156	4.71		PASS

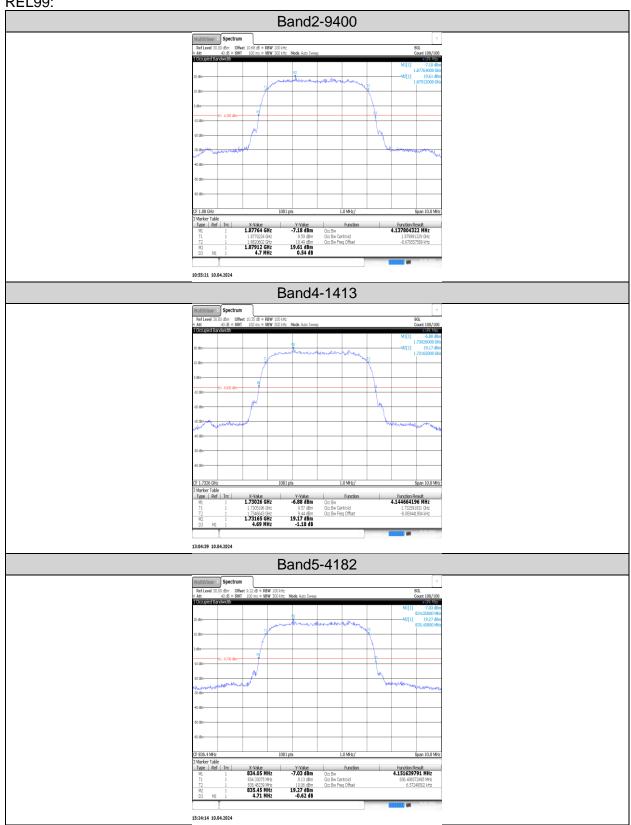
HSUPA:

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	5	4.145	4.72		PASS
Band4	1413	5	4.142	4.70		PASS
Band5	4182	5	4.151	4.70		PASS

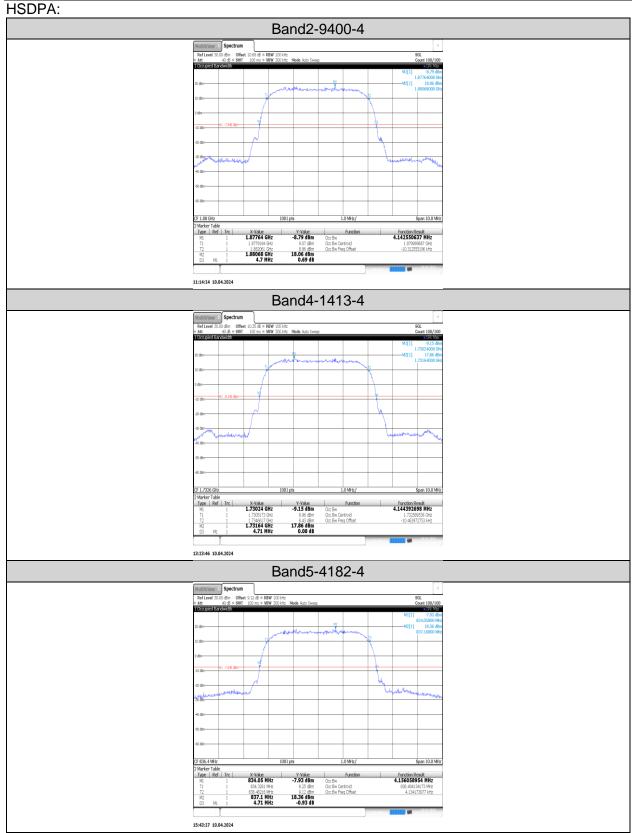


8.3.2. Test Graphs

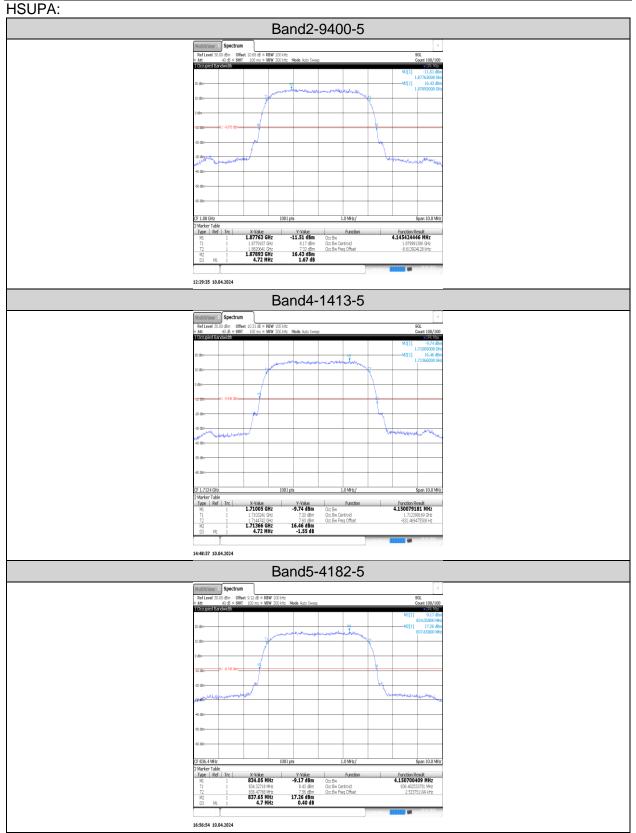
REL99:











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8.4. AppendixD:Band Edge 8.4.1. Test Result

REL99:

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1849.88	-28.42	-13	PASS
Band2	9538	1910.12	-29.91	-13	PASS
Band4	1312	1710.00	-29.47	-13	PASS
Band4	1513	1755.12	-31.27	-13	PASS
Band5	4132	824.00	-27.36	-13	PASS
Band5	4233	849.00	-26.85	-13	PASS

HSDPA:

Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	4	1849.88	-29.51	-13	PASS
Band2	9538	4	1910.11	-30.37	-13	PASS
Band4	1312	4	1709.89	-30.75	-13	PASS
Band4	1513	4	1755.11	-31.88	-13	PASS
Band5	4132	4	824.00	-30.44	-13	PASS
Band5	4233	4	849.00	-29.38	-13	PASS

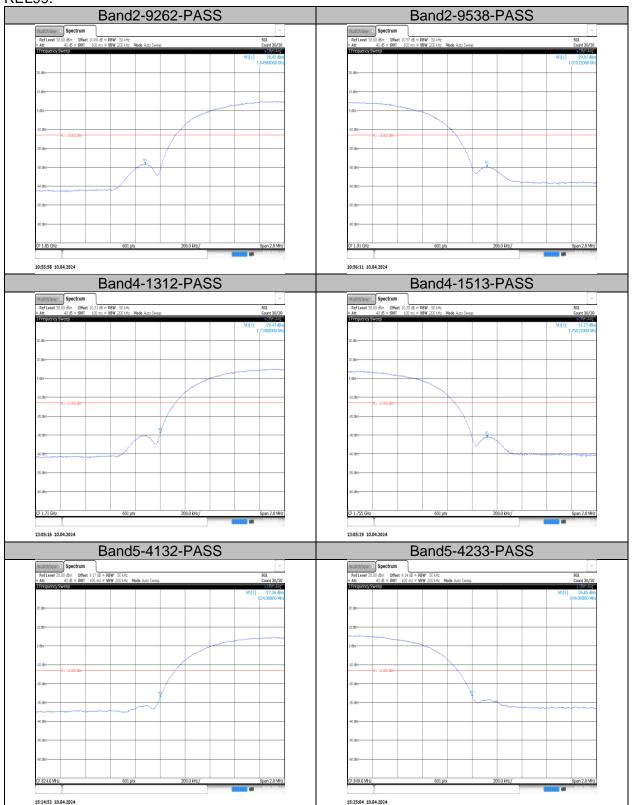
HSUPA:

Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	5	1849.88	-31.05	-13	PASS
Band2	9538	5	1910.14	-32.30	-13	PASS
Band4	1312	5	1709.88	-31.07	-13	PASS
Band4	1513	5	1755.12	-33.00	-13	PASS
Band5	4132	5	823.86	-31.91	-13	PASS
Band5	4233	5	849.11	-30.55	-13	PASS



8.4.2. Test Graphs

REL99:

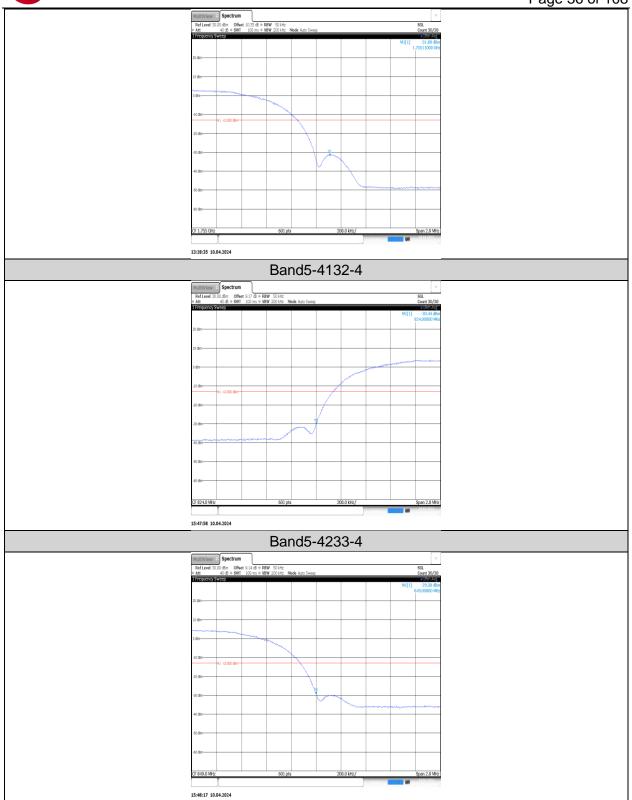




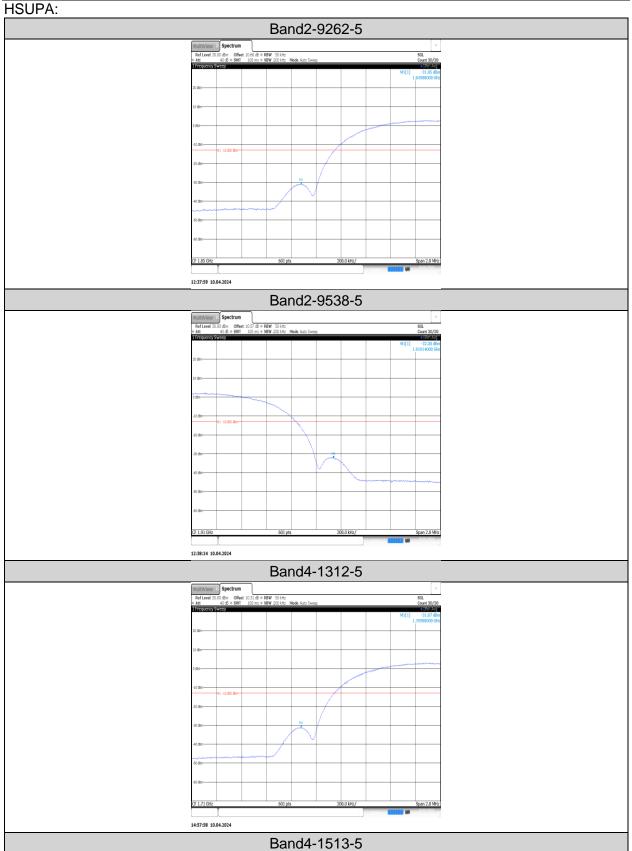
Band2-9262-4 11:18:52 10.04.2024 Band2-9538-4 11:19:11 10.04.2024 Band4-1312-4 13:28:17 10.04.2024 Band4-1513-4

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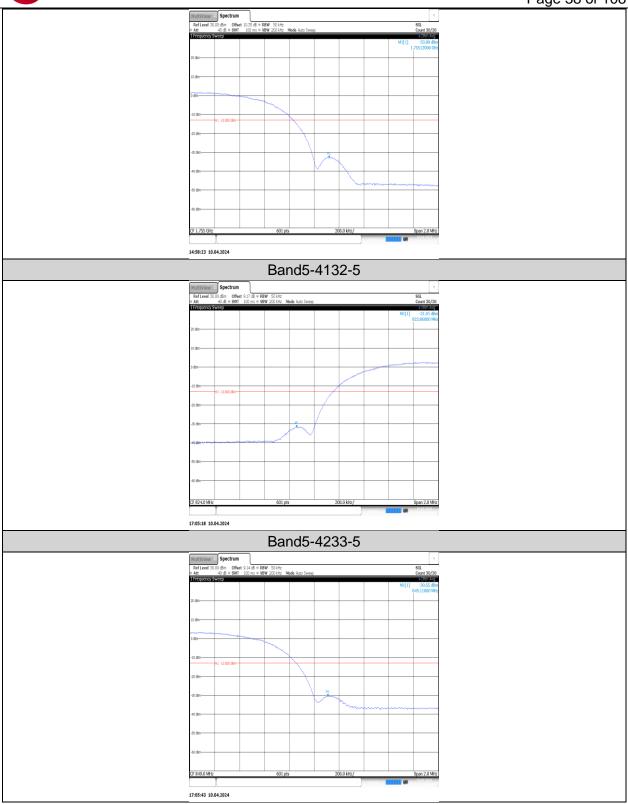
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8.5. AppendixE:Conducted SpuriousEmission 8.5.1. Test Result

Rel99:

Band	Channel	Frequency Range	Frequency(dBm)	Result(dBm)	Limit(dBm)	Verdict
Band2	9262	30~1000MHz	555.23	-50.78	-13	PASS
Band2	9262	1000~20000MHz	7056.25	-42.05	-13	PASS
Band2	9400	30~1000MHz	553.78	-50.69	-13	PASS
Band2	9400	1000~20000MHz	7911.73	-42.3	-13	PASS
Band2	9538	30~1000MHz	560.08	-50.67	-13	PASS
Band2	9538	1000~20000MHz	7042	-42.26	-13	PASS
Band4	1312	30~1000MHz	555.72	-50.77	-13	PASS
Band4	1312	1000~20000MHz	7907.93	-42.09	-13	PASS
Band4	1413	30~1000MHz	554.27	-50.67	-13	PASS
Band4	1413	1000~20000MHz	7090.93	-42.3	-13	PASS
Band4	1513	30~1000MHz	555.72	-50.7	-13	PASS
Band4	1513	1000~20000MHz	7977.28	-41.78	-13	PASS
Band5	4132	30~1000MHz	558.17	-59.8	-13	PASS
Band5	4132	1000~10000MHz	7038.47	-42.85	-13	PASS
Band5	4182	30~1000MHz	990.3	-59.64	-13	PASS
Band5	4182	1000~10000MHz	7106.87	-42.67	-13	PASS
Band5	4233	30~1000MHz	620.73	-59.49	-13	PASS
Band5	4233	1000~10000MHz	7094.72	-42.93	-13	PASS

HSDPA:

HSDPA:							
Band	Channel	SubTest	Frequency Range	Frequency(dBm)	Result(dBm)	Limit(dBm)	Verdict
Band2	9262	1	30~1000MHz	557.17	-50.8	-13	PASS
Band2	9262	2	30~1000MHz	554.75	-50.79	-13	PASS
Band2	9262	3	30~1000MHz	555.23	-50.81	-13	PASS
Band2	9262	4	30~1000MHz	556.2	-50.84	-13	PASS
Band2	9262	1	1000~20000MHz	7933.1	-42.43	-13	PASS
Band2	9262	2	1000~20000MHz	7154.1	-42.34	-13	PASS
Band2	9262	3	1000~20000MHz	7110.88	-41.84	-13	PASS
Band2	9262	4	1000~20000MHz	7099.95	-42.46	-13	PASS
Band2	9400	1	30~1000MHz	552.81	-50.75	-13	PASS
Band2	9400	2	30~1000MHz	556.2	-50.71	-13	PASS
Band2	9400	3	30~1000MHz	555.72	-50.63	-13	PASS
Band2	9400	4	30~1000MHz	554.27	-50.52	-13	PASS
Band2	9400	1	1000~20000MHz	7999.13	-42.37	-13	PASS
Band2	9400	2	1000~20000MHz	7068.6	-42.17	-13	PASS
Band2	9400	3	1000~20000MHz	7942.13	-42.07	-13	PASS
Band2	9400	4	1000~20000MHz	7031.08	-42.4	-13	PASS
Band2	9538	1	30~1000MHz	553.3	-50.87	-13	PASS
Band2	9538	2	30~1000MHz	553.78	-50.78	-13	PASS
Band2	9538	3	30~1000MHz	555.23	-50.85	-13	PASS
Band2	9538	4	30~1000MHz	554.75	-50.83	-13	PASS
Band2	9538	1	1000~20000MHz	7061.95	-42.11	-13	PASS
Band2	9538	2	1000~20000MHz	7974.9	-42.31	-13	PASS
Band2	9538	3	1000~20000MHz	7944.03	-42.66	-13	PASS
Band2	9538	4	1000~20000MHz	7795.35	-41.83	-13	PASS
Band4	1312	1	30~1000MHz	553.78	-50.81	-13	PASS
Band4	1312	2	30~1000MHz	556.69	-50.88	-13	PASS
Band4	1312	3	30~1000MHz	557.17	-50.94	-13	PASS
Band4	1312	4	30~1000MHz	554.27	-50.79	-13	PASS
Band4	1312	1	1000~20000MHz	7046.28	-41.85	-13	PASS
Band4	1312	2	1000~20000MHz	7029.65	-42.53	-13	PASS
Band4	1312	3	1000~20000MHz	7065.28	-42.64	-13	PASS

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Band4	1312	4	1000~20000MHz	7080.95	-42.19	-13	PASS
Band4	1413	1	30~1000MHz	554.27	-50.8	-13	PASS
Band4	1413	2	30~1000MHz	555.23	-50.83	-13	PASS
Band4	1413	3	30~1000MHz	554.27	-50.76	-13	PASS
Band4	1413	4	30~1000MHz	553.78	-50.76	-13	PASS
Band4	1413	1	1000~20000MHz	7951.63	-42.28	-13	PASS
Band4	1413	2	1000~20000MHz	7965.4	-42.29	-13	PASS
Band4	1413	3	1000~20000MHz	7931.2	-42.2	-13	PASS
Band4	1413	4	1000~20000MHz	7981.08	-42.54	-13	PASS
Band4	1513	1	30~1000MHz	555.72	-50.81	-13	PASS
Band4	1513	2	30~1000MHz	555.72	-50.53	-13	PASS
Band4	1513	3	30~1000MHz	558.63	-50.8	-13	PASS
Band4	1513	4	30~1000MHz	555.23	-50.74	-13	PASS
Band4	1513	1	1000~20000MHz	7936.43	-42.49	-13	PASS
Band4	1513	2	1000~20000MHz	7911.25	-42.23	-13	PASS
Band4	1513	3	1000~20000MHz	7878.95	-42.49	-13	PASS
Band4	1513	4	1000~20000MHz	7059.1	-42.31	-13	PASS
Band5	4132	1	30~1000MHz	540.22	-59.7	-13	PASS
Band5	4132	2	30~1000MHz	545.56	-60	-13	PASS
Band5	4132	3	30~1000MHz	553.32	-59.12	-13	PASS
Band5	4132	4	30~1000MHz	543.13	-59.85	-13	PASS
Band5	4132	1	1000~10000MHz	7123.97	-42.9	-13	PASS
Band5	4132	2	1000~10000MHz	7906.03	-42.88	-13	PASS
Band5	4132	3	1000~10000MHz	7063.22	-42.77	-13	PASS
Band5	4132	4	1000~10000MHz	7944.73	-42.91	-13	PASS
Band5	4182	1	30~1000MHz	552.83	-59.2	-13	PASS
Band5	4182	2	30~1000MHz	947.14	-59.62	-13	PASS
Band5	4182	3	30~1000MHz	549.92	-59.51	-13	PASS
Band5	4182	4	30~1000MHz	554.77	-59.55	-13	PASS
Band5	4182	1	1000~10000MHz	7921.78	-42.94	-13	PASS
Band5	4182	2	1000~10000MHz	7957.78	-42.92	-13	PASS
Band5	4182	3	1000~10000MHz	7956.88	-42.58	-13	PASS
Band5	4182	4	1000~10000MHz	7009.22	-42.78	-13	PASS
Band5	4233	1	30~1000MHz	964.6	-59.45	-13	PASS
Band5	4233	2	30~1000MHz	582.42	-59.73	-13	PASS
Band5	4233	3	30~1000MHz	563.5	-59.67	-13	PASS
Band5	4233	4	30~1000MHz	553.8	-59.6	-13	PASS
Band5	4233	1	1000~10000MHz	7994.68	-42.82	-13	PASS
Band5	4233	2	1000~10000MHz	7998.28	-42.79	-13	PASS
Band5	4233	3	1000~10000MHz	7989.28	-43.09	-13	PASS
Band5	4233	4	1000~10000MHz	7881.28	-42.99	-13	PASS

HSUPA:

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Band	Channel	SubTest	Frequency Range	Frequency(dBm)	Result(dBm)	Limit(dBm)	Verdict
Band2	9262	1	30~1000MHz	552.81	-50.77	-13	PASS
Band2	9262	2	30~1000MHz	557.17	-50.78	-13	PASS
Band2	9262	3	30~1000MHz	555.23	-50.78	-13	PASS
Band2	9262	4	30~1000MHz	555.72	-50.83	-13	PASS
Band2	9262	5	30~1000MHz	558.14	-50.72	-13	PASS
Band2	9262	1	1000~20000MHz	7034.4	-42.53	-13	PASS
Band2	9262	2	1000~20000MHz	7044.38	-41.94	-13	PASS
Band2	9262	3	1000~20000MHz	6924.2	-42.43	-13	PASS
Band2	9262	4	1000~20000MHz	7128.93	-42.28	-13	PASS
Band2	9262	5	1000~20000MHz	7945.93	-42.17	-13	PASS
Band2	9400	1	30~1000MHz	555.23	-50.83	-13	PASS
Band2	9400	2	30~1000MHz	555.23	-50.91	-13	PASS
Band2	9400	3	30~1000MHz	556.69	-50.72	-13	PASS
Band2	9400	4	30~1000MHz	553.78	-50.86	-13	PASS

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						Page 41	01 100
Band2	9400	5	30~1000MHz	552.33	-50.8	-13	PASS
Band2	9400	1	1000~20000MHz	7045.33	-42.45	-13	PASS
Band2	9400	2	1000~20000MHz	7060.53	-42.06	-13	PASS
Band2	9400	3	1000~20000MHz	7999.13	-42.45	-13	PASS
Band2	9400	4	1000~20000MHz	7089.98	-42.37	-13	PASS
Band2	9400	5	1000~20000MHz	6987.38	-41.96	-13	PASS
Band2	9538	1	30~1000MHz	558.14	-50.81	-13	PASS
Band2	9538	2	30~1000MHz	556.2	-50.81	-13	PASS
Band2	9538	3	30~1000MHz	553.78	-50.72	-13	PASS
Band2	9538	4	30~1000MHz	555.23	-50.7	-13	PASS
Band2	9538	5	30~1000MHz	554.75	-50.91	-13	PASS
Band2	9538	1	1000~20000MHz	7004.48	-42.49	-13	PASS
Band2	9538	2	1000~20000MHz	7105.65	-42.2	-13	PASS
Band2	9538	3	1000~20000MHz	7956.85	-42.32	-13	PASS
Band2	9538	4	1000~20000MHz	7959.7	-42.31	-13	PASS
Band2	9538	5	1000~20000MHz	7927.4	-42.21	-13	PASS
Band4	1312	1	30~1000MHz	552.33	-50.98	-13	PASS
Band4	1312	2	30~1000MHz	554.75	-50.82	-13	PASS
Band4	1312	3	30~1000MHz	555.72	-50.82	-13	PASS
Band4	1312	4	30~1000MHz	553.78	-50.89	-13	PASS
Band4	1312	5	30~1000MHz	556.2	-50.8	-13	PASS
	1312	1	1000~20000MHz	7942.13	-42.05	-13	PASS
Band4	1312	2	1000~20000MHz	7942.13	-42.05 -42.15	-13	PASS
Band4		3					
Band4	1312		1000~20000MHz	7889.4	-42.5	-13	PASS
Band4	1312	4	1000~20000MHz	7933.1	-42.67	-13	PASS
Band4	1312	5	1000~20000MHz	7124.65	-42.11	-13	PASS
Band4	1413	1	30~1000MHz	554.27	-50.82	-13	PASS
Band4	1413	2	30~1000MHz	553.78	-50.81	-13	PASS
Band4	1413	3	30~1000MHz	554.75	-50.78	-13	PASS
Band4	1413	4	30~1000MHz	556.2	-50.95	-13	PASS
Band4	1413	5	30~1000MHz	554.27	-50.81	-13	PASS
Band4	1413	1	1000~20000MHz	7938.33	-42.19	-13	PASS
Band4	1413	2	1000~20000MHz	7957.8	-42.21	-13	PASS
Band4	1413	3	1000~20000MHz	7105.18	-42.64	-13	PASS
Band4	1413	4	1000~20000MHz	7008.28	-42.51	-13	PASS
Band4	1413	5	1000~20000MHz	7882.28	-42.33	-13	PASS
Band4	1513	1	30~1000MHz	558.14	-50.74	-13	PASS
Band4	1513	2	30~1000MHz	555.23	-50.8	-13	PASS
Band4	1513	3	30~1000MHz	557.66	-50.82	-13	PASS
Band4	1513	4	30~1000MHz	555.72	-50.79	-13	PASS
Band4	1513	5	30~1000MHz	560.57	-50.84	-13	PASS
Band4	1513	1	1000~20000MHz	7885.6	-42.67	-13	PASS
Band4	1513	2	1000~20000MHz	6968.85	-42.42	-13	PASS
Band4	1513	3	1000~20000MHz	7955.9	-42.07	-13	PASS
Band4	1513	4	1000~20000MHz	7865.65	-41.8	-13	PASS
Band4	1513	5	1000~20000MHz	7008.28	-42.21	-13	PASS
Band5	4132	1	30~1000MHz	995.15	-59.72	-13	PASS
Band5	4132	2	30~1000MHz	998.55	-59.84	-13	PASS
Band5	4132	3	30~1000MHz	549.92	-59.87	-13	PASS
Band5	4132	4	30~1000MHz	586.3	-59.94	-13	PASS
Band5	4132	5	30~1000MHz	556.23	-59.75	-13	PASS
Band5	4132	1	1000~10000MHz	7053.32	-42.86	-13	PASS
Band5	4132	2	1000~10000MHz	7959.58	-43.06	-13	PASS
Band5	4132	3	1000~10000MHz	7972.63	-43.17	-13	PASS
Band5	4132	4	1000~10000MHz	7092.47	-42.99	-13	PASS
Band5	4132	5	1000~10000MHz	7963.18	-42.86	-13	PASS
Band5	4182	1	30~1000MHz	549.92	-59.52	-13	PASS
Band5	4182	2	30~1000MHz	447.59	-59.68	-13	PASS
Band5	4182	3	30~1000MHz	556.23	-59.68	-13	PASS



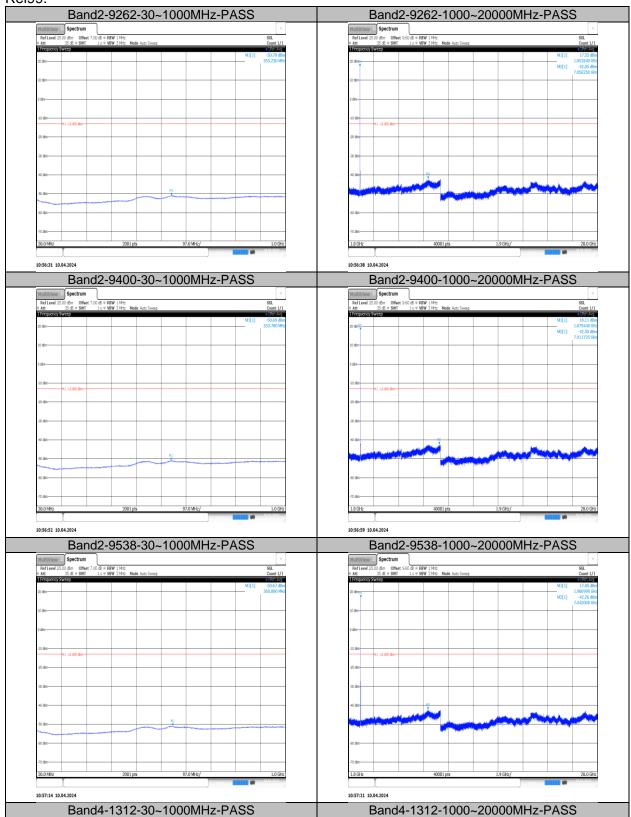
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Band5	4182	4	30~1000MHz	541.19	-59.59	-13	PASS
Band5	4182	5	30~1000MHz	567.38	-59.71	-13	PASS
Band5	4182	1	1000~10000MHz	7036.67	-42.91	-13	PASS
Band5	4182	2	1000~10000MHz	7927.63	-42.81	-13	PASS
Band5	4182	3	1000~10000MHz	7018.67	-42.78	-13	PASS
Band5	4182	4	1000~10000MHz	7955.98	-42.78	-13	PASS
Band5	4182	5	1000~10000MHz	7894.33	-42.93	-13	PASS
Band5	4233	1	30~1000MHz	555.26	-59.51	-13	PASS
Band5	4233	2	30~1000MHz	597.94	-59.65	-13	PASS
Band5	4233	3	30~1000MHz	555.74	-59.7	-13	PASS
Band5	4233	4	30~1000MHz	465.05	-59.68	-13	PASS
Band5	4233	5	30~1000MHz	561.08	-59.58	-13	PASS
Band5	4233	1	1000~10000MHz	7900.63	-42.84	-13	PASS
Band5	4233	2	1000~10000MHz	7903.78	-42.88	-13	PASS
Band5	4233	3	1000~10000MHz	7943.38	-42.73	-13	PASS
Band5	4233	4	1000~10000MHz	7951.48	-42.85	-13	PASS
Band5	4233	5	1000~10000MHz	7964.98	-42.98	-13	PASS

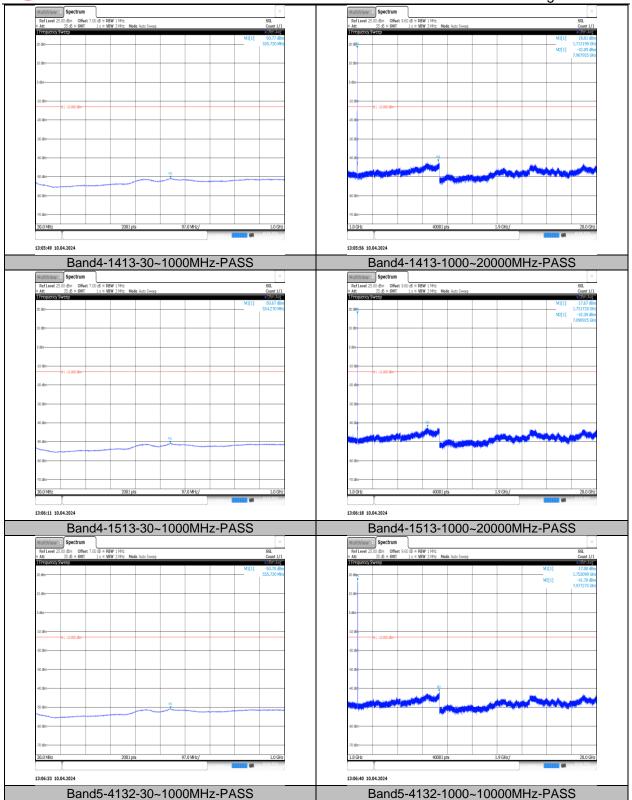


8.5.2. Test Graphs

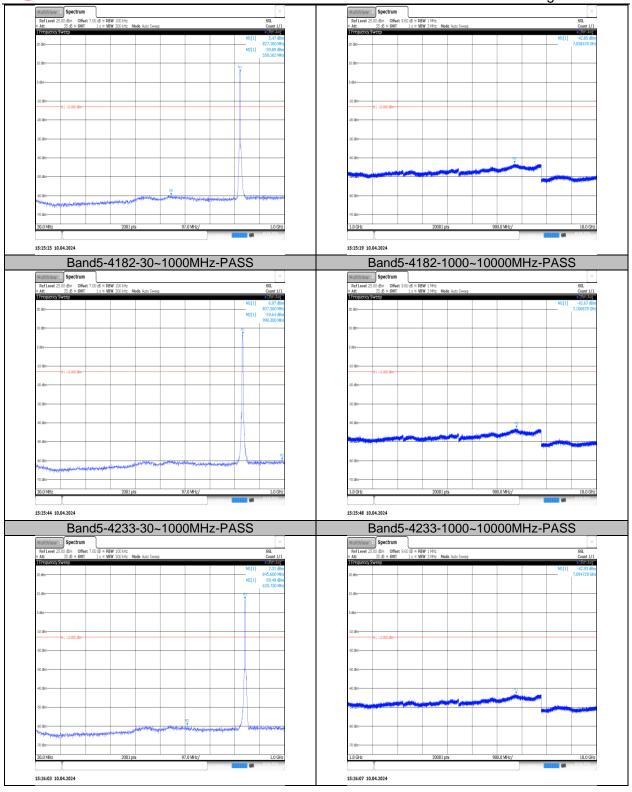
Rel99:





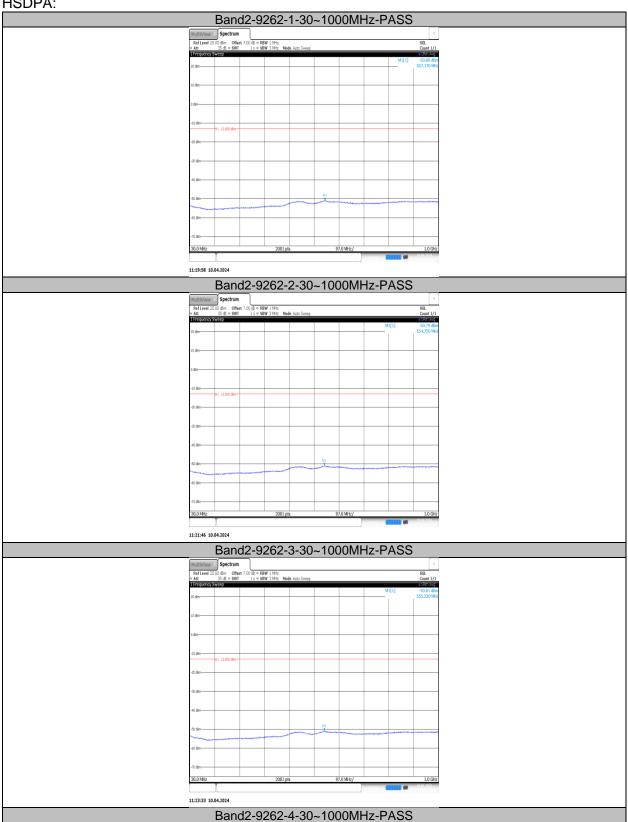


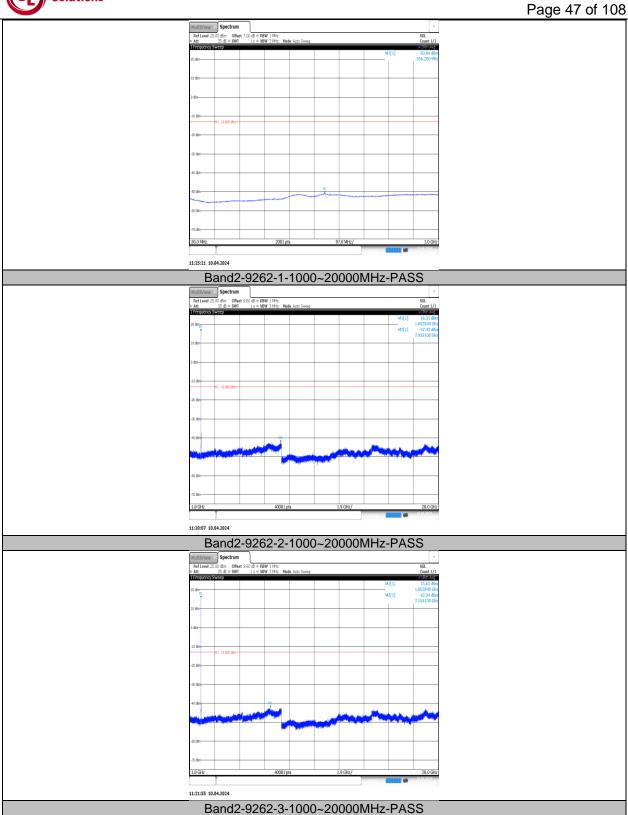


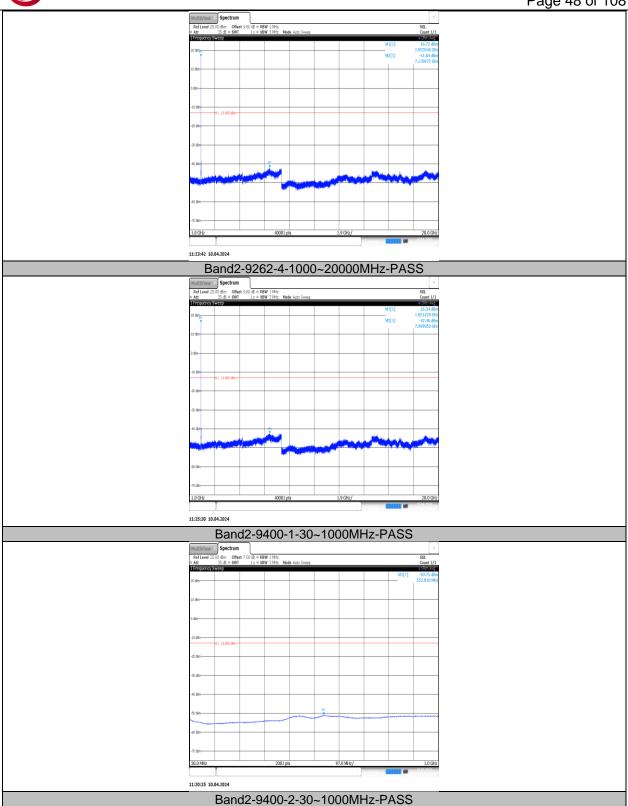




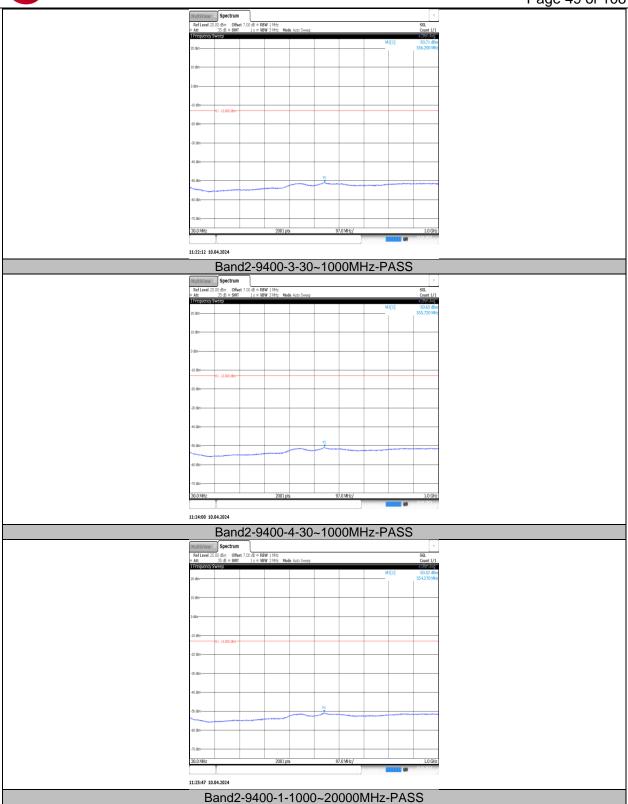
HSDPA:



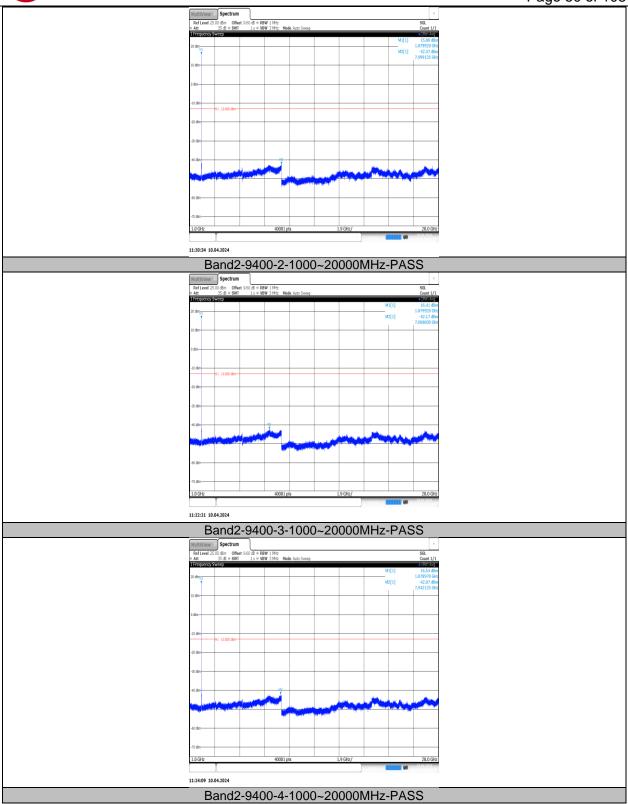




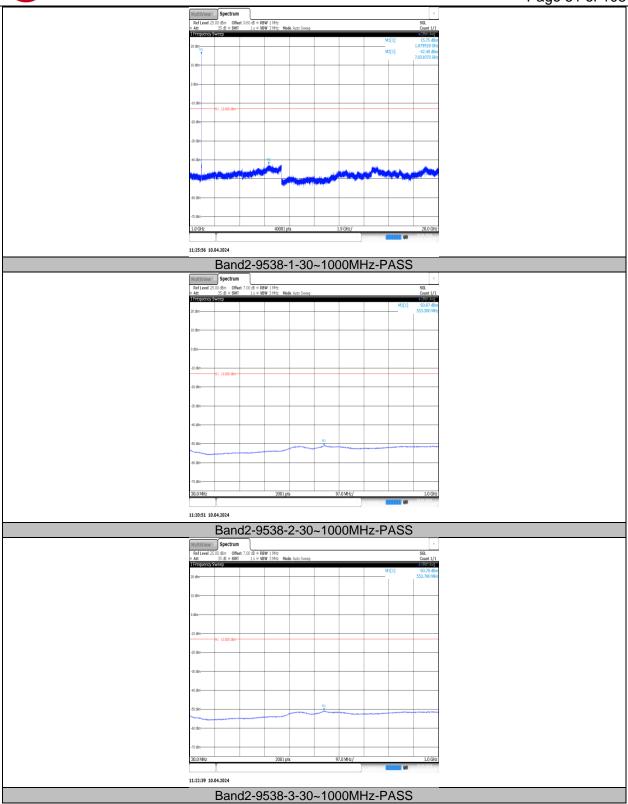
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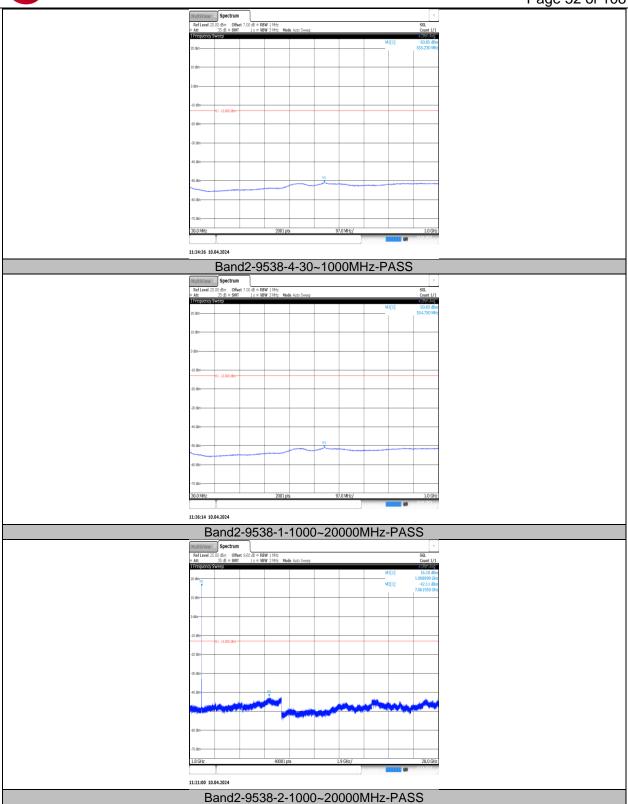
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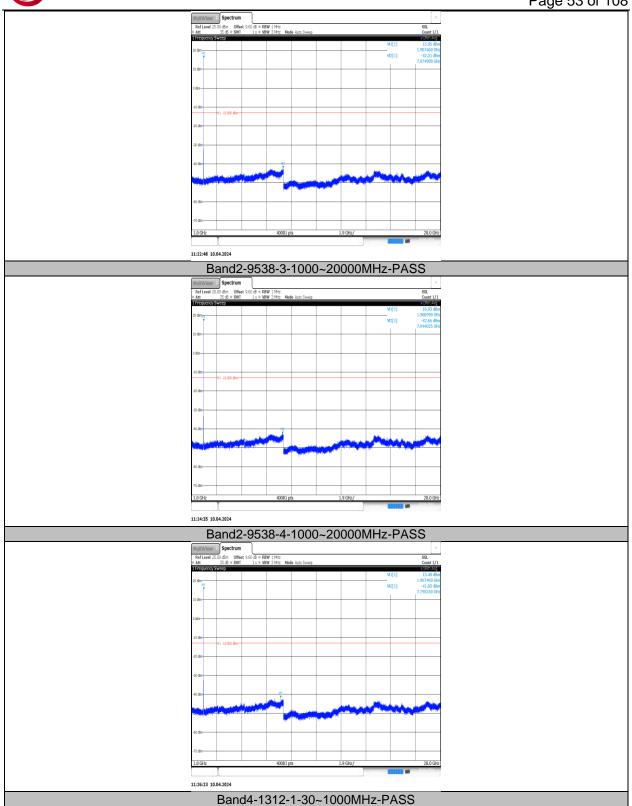


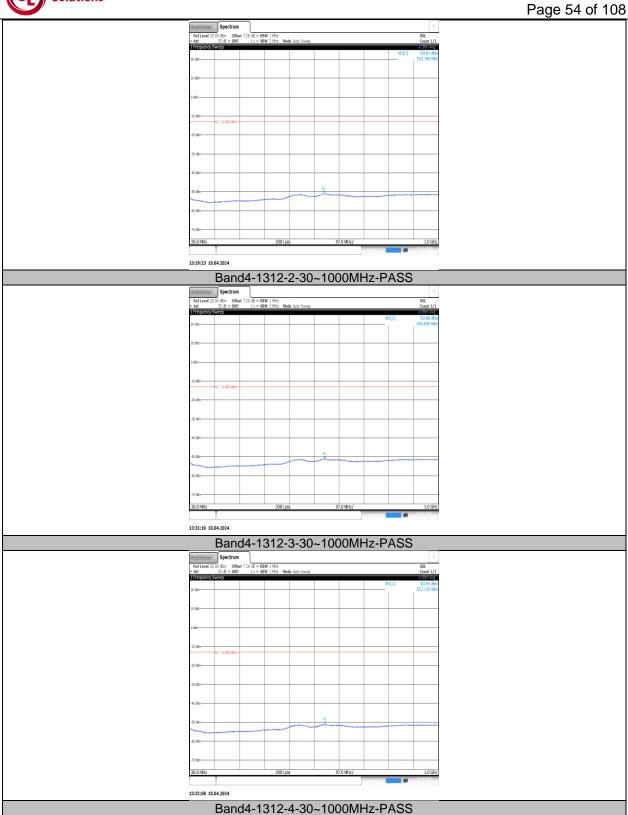
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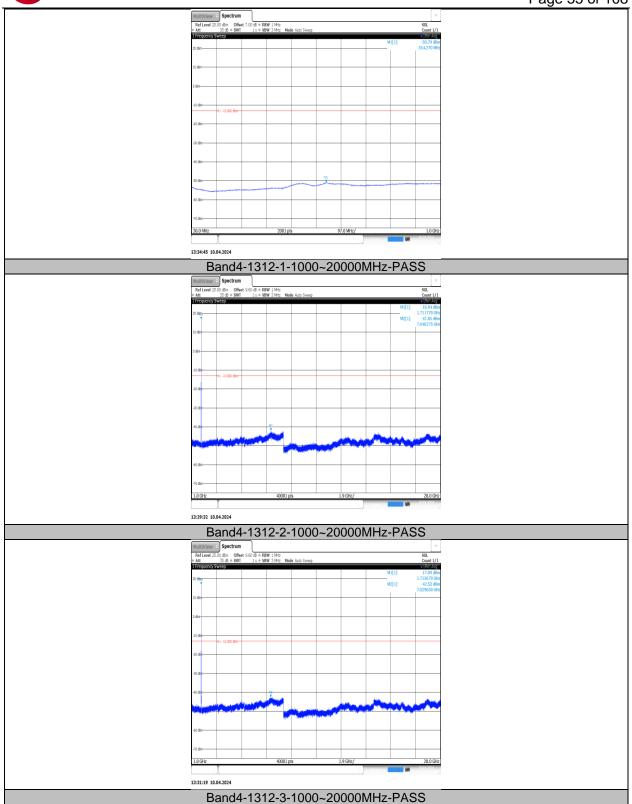
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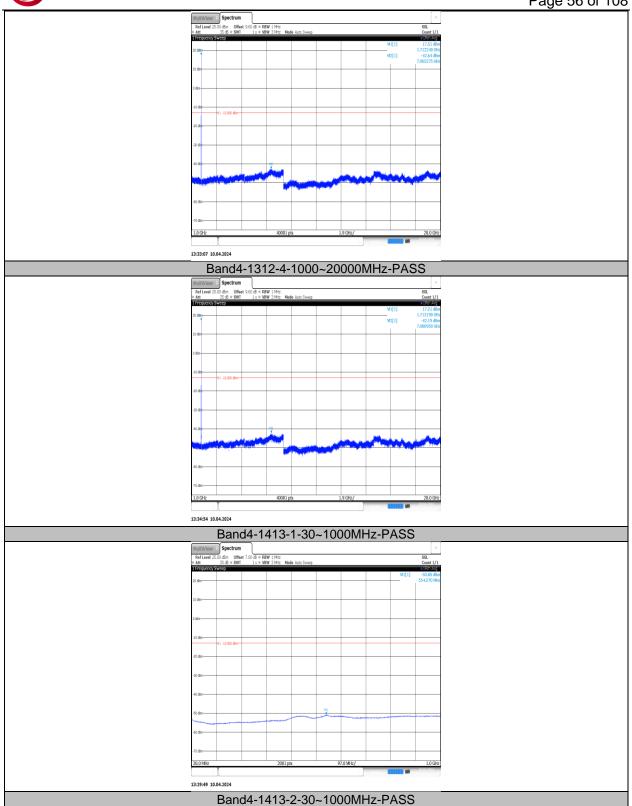






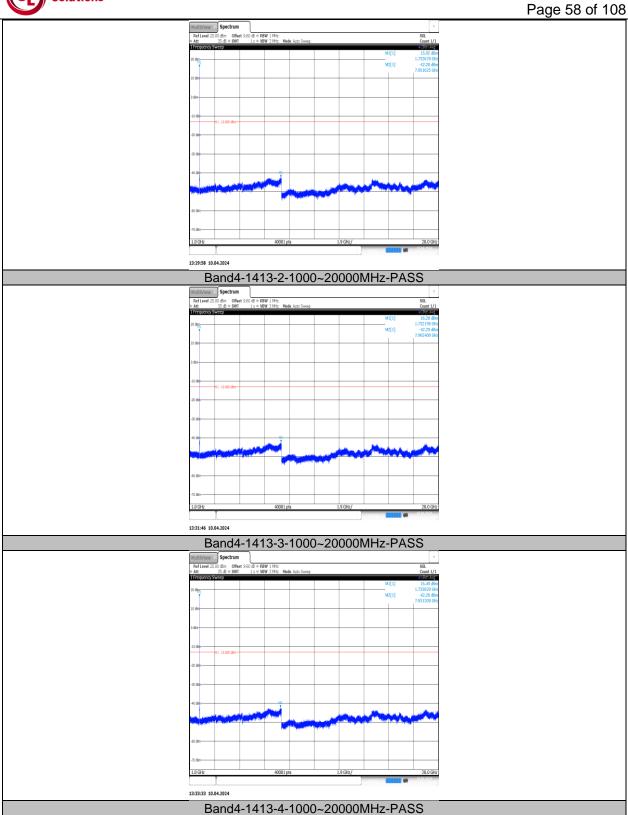
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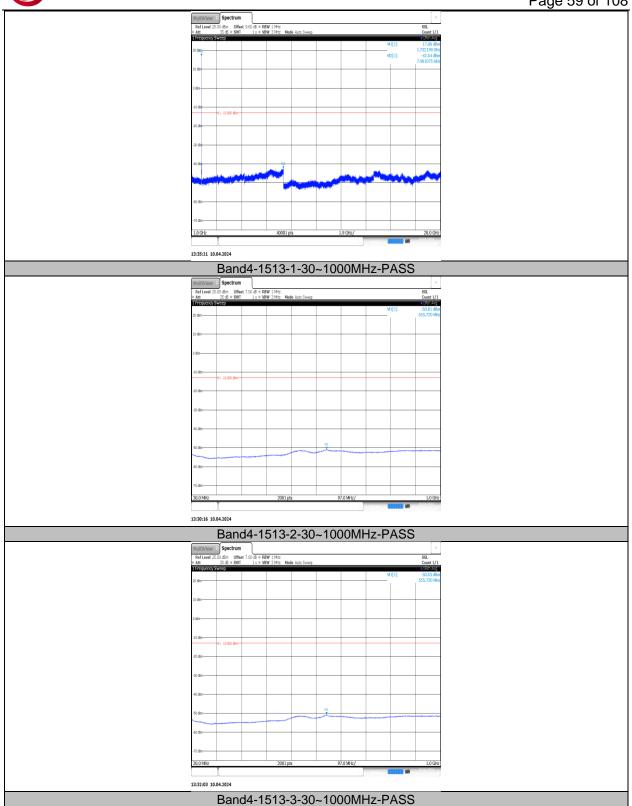


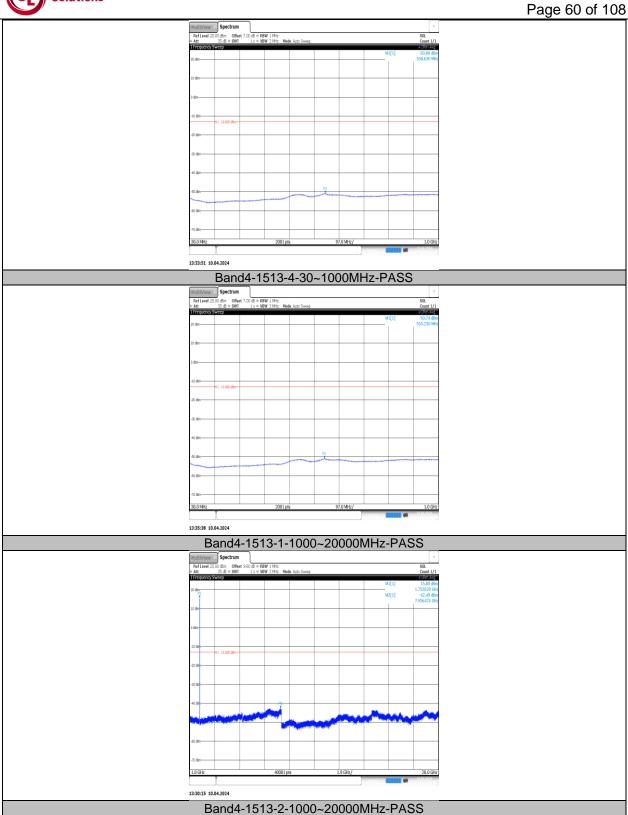


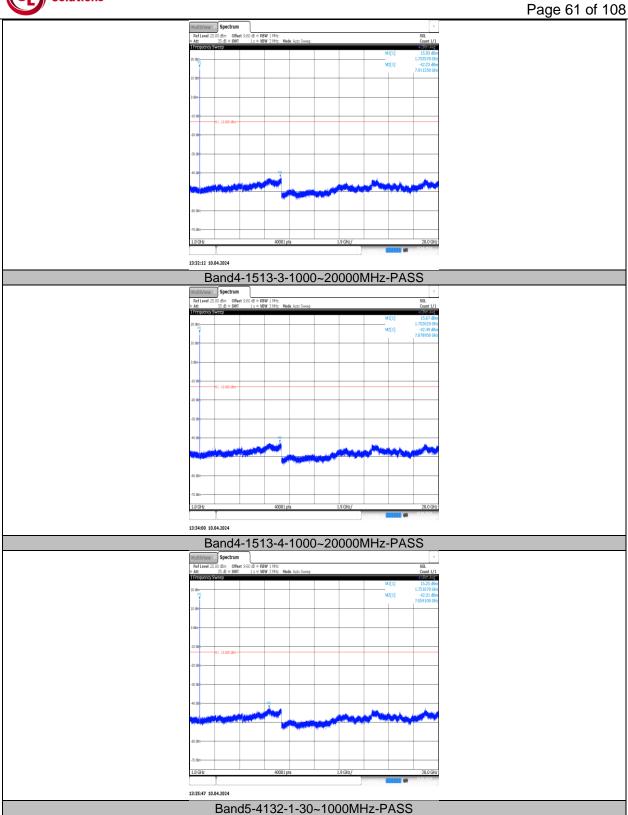
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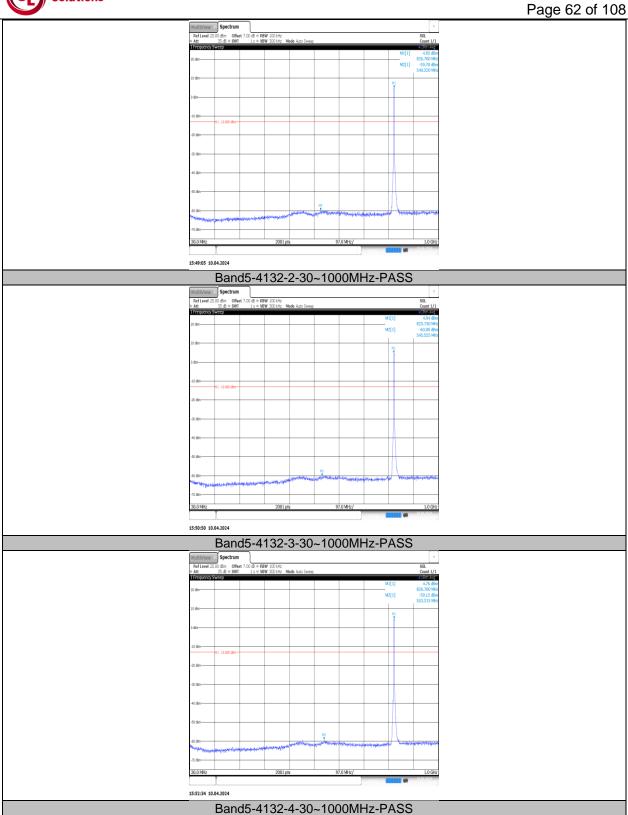
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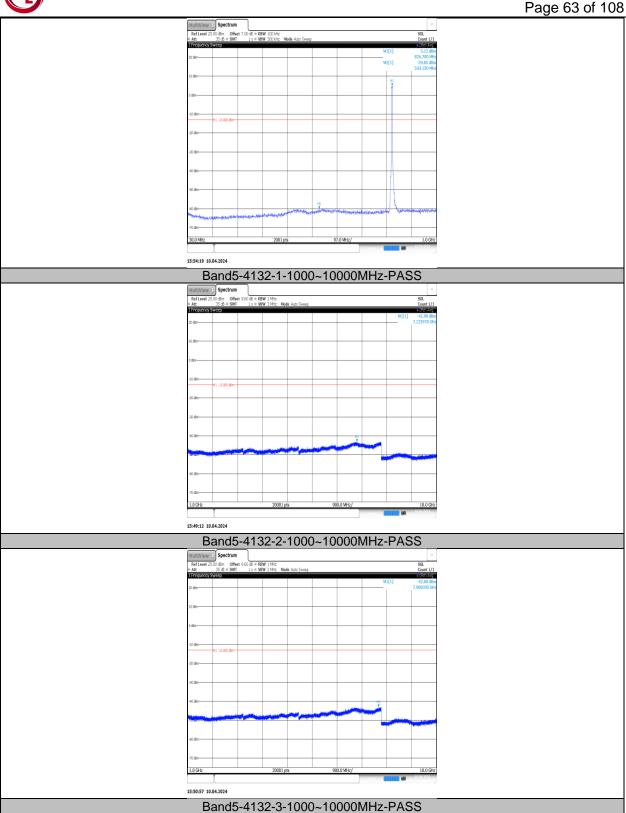




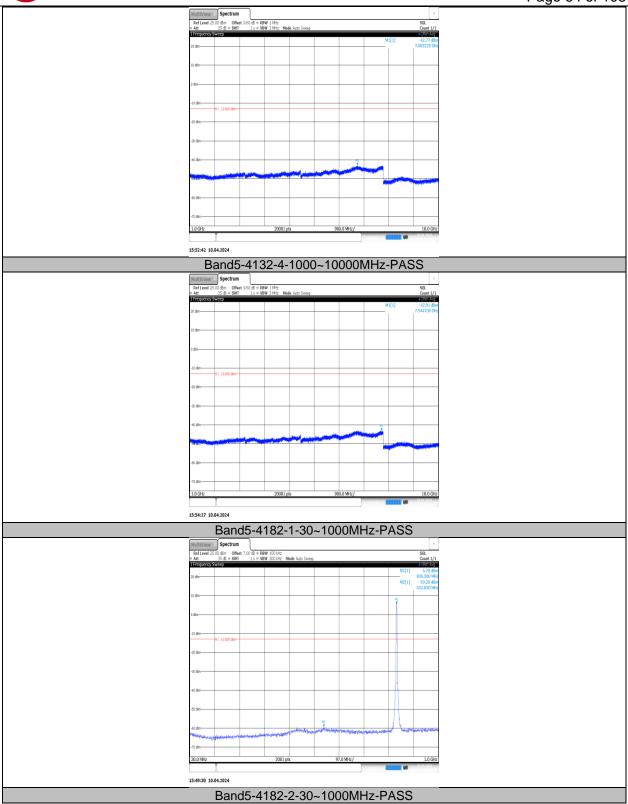


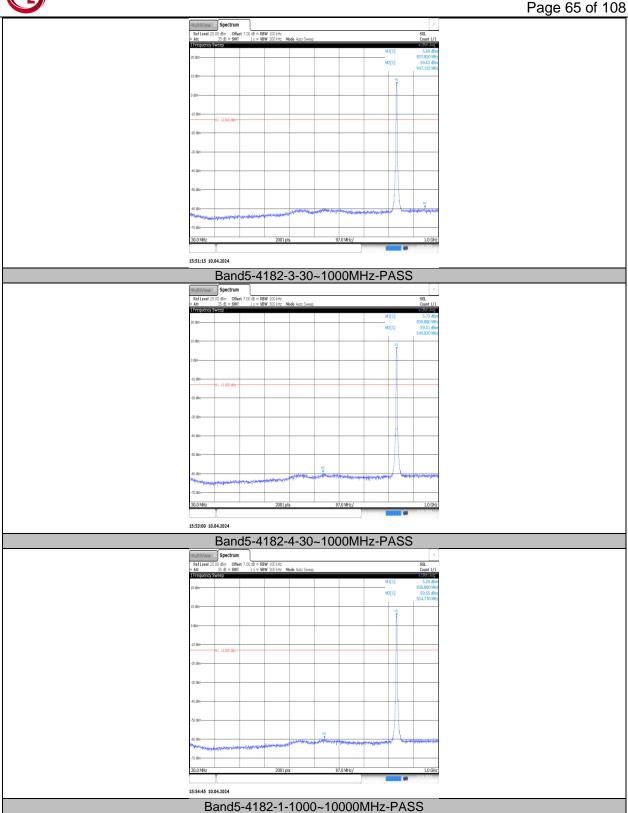




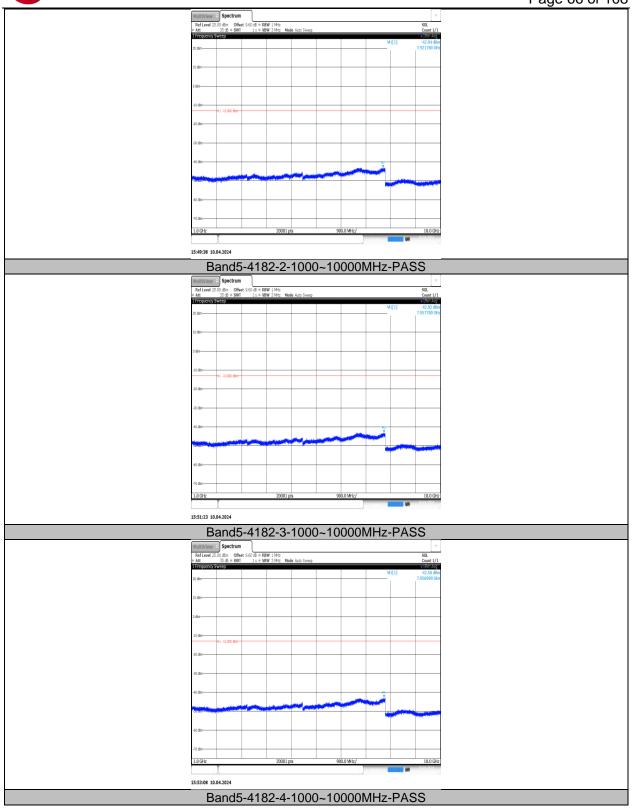


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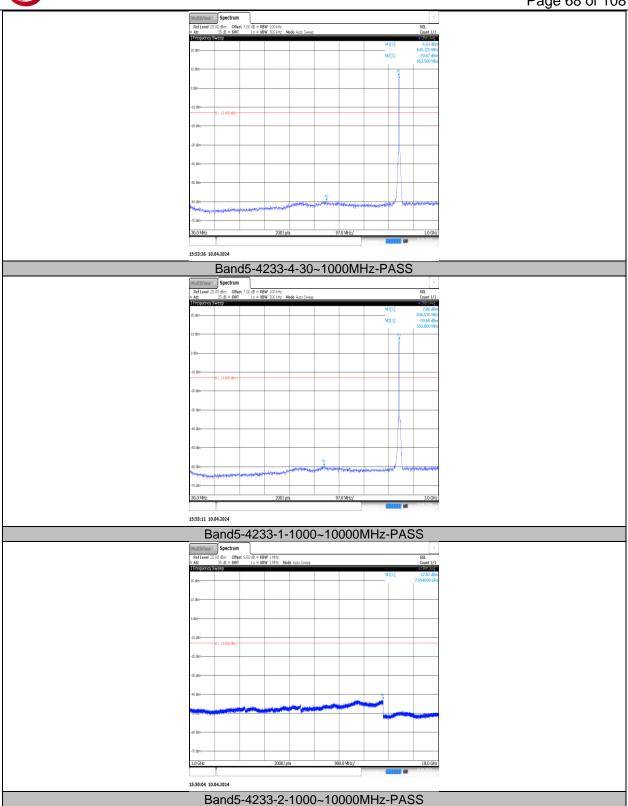


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Band5-4233-3-30~1000MHz-PASS



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