CFR 47 FCC PART 22 H
CFR 47 FCC PART 24 E
CFR 47 FCC PART 27
RSS-132, RSS-133, RSS-139

TEST REPORT

For

Integrated Smart Terminal

MODEL NUMBER: E700 Pro

REPORT NUMBER: 4790870870-1-RF-5

ISSUE DATE: July 14, 2023

FCC ID:V5PE700PRO
IC:11689A-E700PRO

Prepared for

PAX Technology Limited
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Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	July 17,2023	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 >< RSS-132, RSS-133, RSS-139>when <Accuracy Method> decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

Manufacturer Information

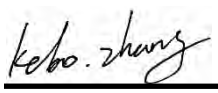
Company Name:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	401 and 402,Building 3, Shenzhen Software Park, Nanshan District, Shenzhen City, Guangdong Province, P.R.C

EUT Information

EUT Name:	Integrated Smart Terminal
Model:	E700 Pro
Brand:	PAX
Sample Received Date:	June 19, 2023
Sample Status:	Normal
Sample ID:	6201632
Date of Tested:	June 20, 2023 to July 14, 2023

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
RSS-132 Issue 4, RSS-133 Issue 6, RSS-139 Issue 4	PASS

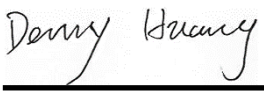
Prepared By:



Kebo Zhang

Senior Project Engineer

Checked By:



Denny Huang

Senior Project Engineer

Approved By:

Stephen Guo

Operations Manager

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, RSS-132, RSS-133, RSS-139

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**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)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. 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-20019, R-20004, C-20012 and T-20011)** 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-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011

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.

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
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.78 dB (1 GHz-18 GHz)
	5.23dB (18 GHz-26 GHz)
	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.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	Integrated Smart Terminal
Model	E700 Pro
Normal Test Voltage:	AC 120 V, 60 Hz

5.2. TEST CHANNEL CONFIGURATION

Band	Mode	Low	Middle	High
WCDMA Band 2	HSDPA/HSUPA	9262	9400	9538
		1852.4 MHz	1880.0 MHz	1907.6 MHz
WCDMA Band 4	HSDPA/HSUPA	1312	1413	1513
		1712.4 MHz	1732.6 MHz	1752.6 MHz
WCDMA Band 5	HSDPA/HSUPA	4132	4182	4233
		826.4 MHz	836.4 MHz	846.6 MHz

5.3. MAXIMUM ERP/EIRP POWER AND EMISSION DESIGNATOR

WCDMA Band2

Part 24/RSS-133						
EIRP Limit(W)	2					
Antenna Gain (dBi)	2.45					
Mode	Ch	Freq(MHz)	Conducted Average power (dBm)	EIRP (W)	99% OBW (MHz)	Emission Designator
Rel99	9538	1907.6	20.53	0.20	4.166	4M17F9W
HSDPA	9262	1852.4	20.17	0.18	4.162	4M16F9W
HSUPA	9262	1852.4	20.02	0.18	4.164	4M16F9W

WCDMA Band4

Part 27/RSS-139						
EIRP Limit(W)	1					
Antenna Gain (dBi)	1.75					
Mode	Ch	Freq(MHz)	Conducted Average power (dBm)	EIRP (W)	99% OBW (MHz)	Emission Designator
Rel99	1513	1752.6	20.09	0.15	4.173	4M17F9W
HSDPA	1513	1752.6	19.17	0.12	4.155	4M16F9W
HSUPA	1513	1752.6	19.73	0.14	4.163	4M16F9W

WCDMA Band5

Part 22/RSS-132						
ERP Limit(W)	7.0					
Antenna Gain (dBi)	1.7					
Mode	Ch	Freq(MHz)	Conducted Average power (dBm)	ERP (W)	99% OBW (MHz)	Emission Designator
Rel99	4233	846.6	22.08	0.15	4.169	4M17F9W
HSDPA	4132	826.4	20.69	0.11	4.163	4M16F9W
HSUPA	4233	846.6	20.59	0.10	4.161	4M16F9W

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 the highest transmitting power channel and the worse configuration.

5.5. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Band	Antenna Type	MAX Antenna Gain (dBi)
1	WCDMA Band 2	FPC	2.45
1	WCDMA Band 4	FPC	1.75
1	WCDMA Band 5	FPC	1.7

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

SUPPORT EQUIPMENT

Item	Equipment	Mfr/Brand	Model/Type No.	Specification	Series No.
1	Laptop	Lenovo	E14	/	Laptop
2	Flash Disk*4	N/A	N/A	N/A	N/A
3	Bank card	N/A	N/A	N/A	N/A
4	RS232 Load	N/A	N/A	N/A	N/A
5	Cash Drawer Load	N/A	N/A	N/A	N/A
6	Micro SD Card	N/A	N/A	N/A	N/A
7	Earphone	SENNHEISER	CX80S	N/A	N/A

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	Type C	/	1.0	/

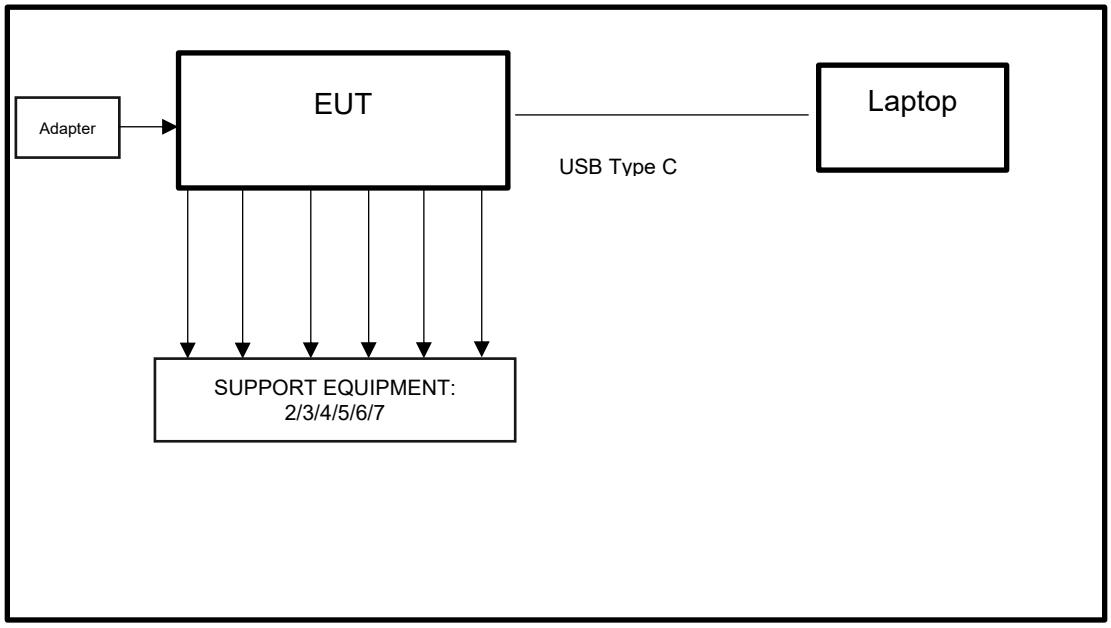
ACCESSORIES

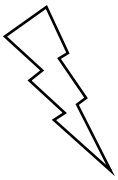
Item	Accessory	Brand Name	Model Name	Description
1	Switching Adapter	HONOTO	ADS-65HI-19A-3 24065E	Input: 100-240V~ 50/60Hz 1.5A max Output: DC 24V, 2.7A 64.8W
2	AC Cable	N/A	N/A	Length: 2.0m unshielded

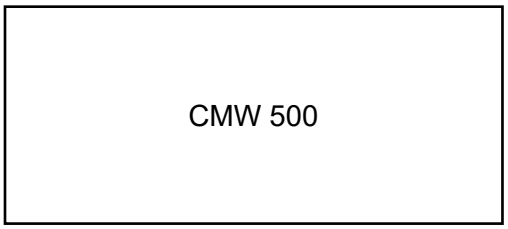
TEST SETUP

The EUT can connect to CMW500 into a test mode.

SETUP DIAGRAM FOR TESTS







6. MEASURING INSTRUMENT AND SOFTWARE USED

Antenna Terminal Test						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☑	Spectrum Analyzer	R&S	FSV40	S422060001	Oct.17, 2022	Oct.16, 2023
☑	Wideband Radio Communication Tester	R&S	CMW500	155523	Oct.17, 2022	Oct.16, 2023
☑	DC Power Supply	Array	3662A	A1512015	Oct.17, 2022	Oct.16, 2023
Software						
Used	Description		Manufacturer	Name		Version
☑	Tonsend Cellular Test System		Tonsend	JS1120 RF Auto Test System		3.1.46
Radiated Test						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☑	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct.17, 2022	Oct.16, 2023
☑	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Aug.02, 2021	Aug.01, 2024
☑	Preamplifier	HP	8447D	2944A09099	Oct.17, 2022	Oct.16, 2023
☑	EMI Measurement Receiver	R&S	ESR26	101377	Oct.17, 2022	Oct.16, 2023
☑	Horn Antenna	TDK	HRN-0118	130940	July 20, 2021	July 19, 2024
☑	Horn Antenna	Schwarzbeck	BBHA9170	697	July 20, 2021	July 19, 2024
☑	Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.17, 2022	Oct.16, 2023
☑	Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.17, 2022	Oct.16, 2023
☑	Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.13, 2024
☑	High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Oct.17, 2022	Oct.16, 2023
Software						
Used	Description		Manufacturer	Name		Version
☑	Test Software for Radiated disturbance		Farad	EZ-EMC		Ver. UL-3A1

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
RSS-132, RSS-133, RSS-139

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.

RSS-132
The transmitter output power shall be measured in terms of average power. The equivalent radiated power (e.r.p.) shall not exceed 7 watts for mobile equipment and 3 watts for portable equipment.

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

RSS-133
The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits 2W.
In addition, the transmitter's peak-to-average power ratio (PAPR) shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

RSS-139
The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters shall not exceed one watt.
In addition, the peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

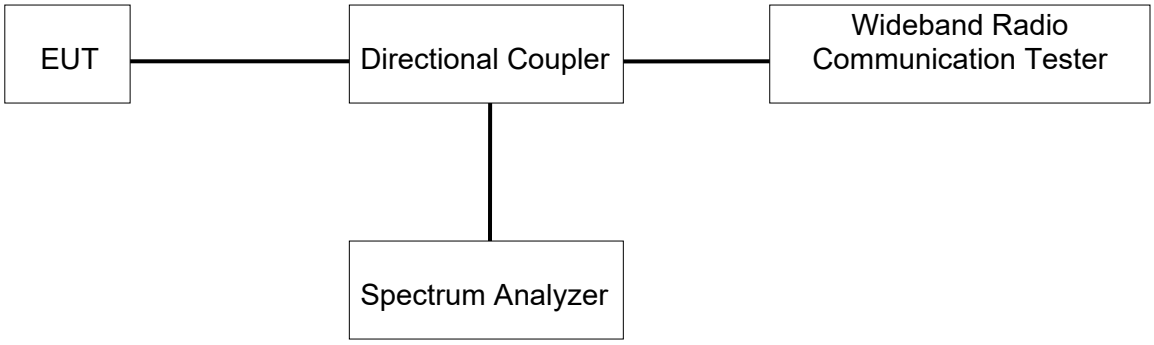
TEST PROCEDURE

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

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 HZ

RESULTS

Please refer to Appendix A.

7.2. PEAK TO AVERAGE RADIO

LIMITS

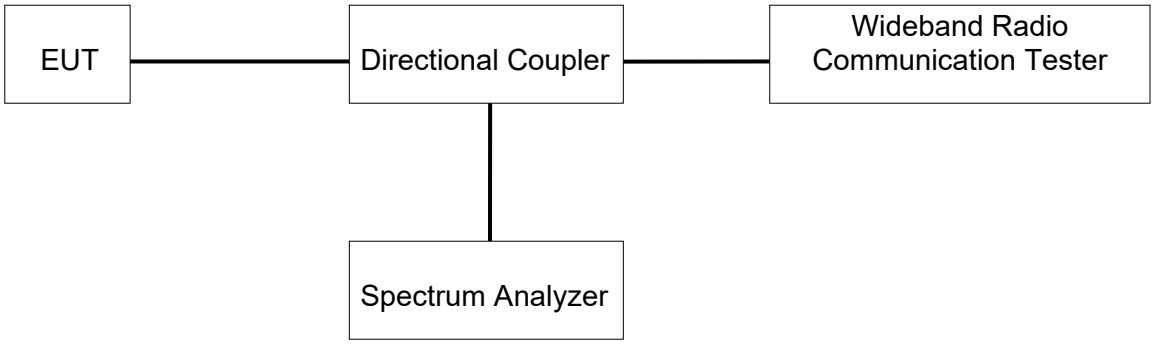
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

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	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 HZ

RESULTS

Please refer to Appendix B.

7.3. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049, RSS-132, RSS-133, RSS-139

LIMITS

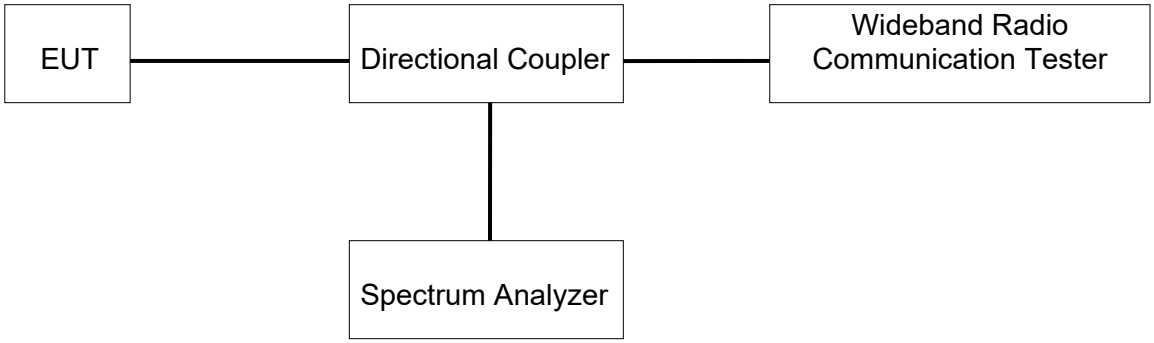
For reporting purposes only.

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	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 HZ

RESULTS

Please refer to Appendix C.

7.4. BAND EDGE EMISSIONS

RULE PART(S)

FCC §2.1051, §22.917, §24.238, §27.53
RSS-132, RSS-133, RSS-139

LIMITS

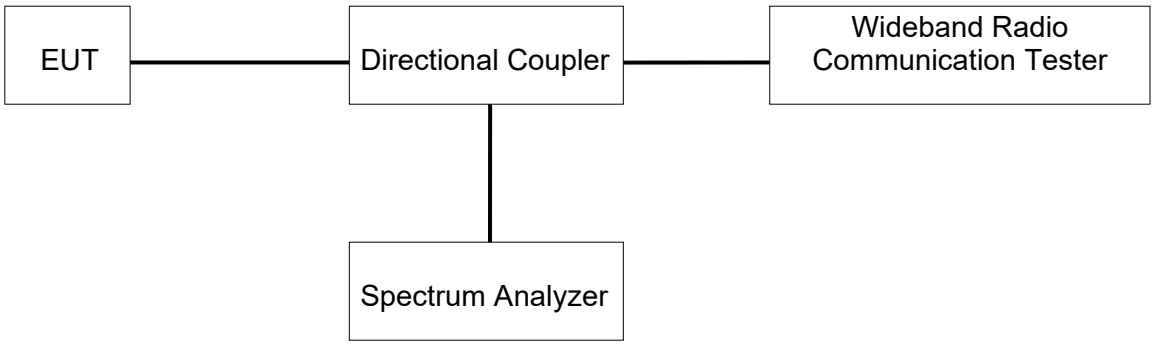
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

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	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 HZ

RESULTS

Please refer to Appendix D.

7.5. SPURIOUS EMISSION AT ANTENNA TERMINAL

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53, §90,
RSS-132, RSS-133,RSS-139

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.

RSS-132 section 5.5
Mobile and base station equipment shall comply with the limits in (i) and (ii) below.
(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts).
(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS-133 section 6.5.1
Equipment shall comply with the limits in (i) and (ii) below.
(i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p(watts).
(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

RSS-139 section 6.6
(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.
(ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

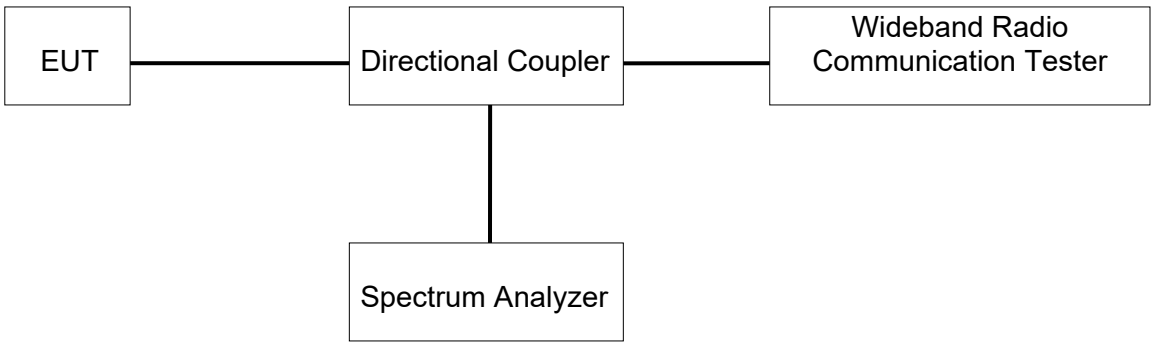
TEST PROCEDURE

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

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 HZ

RESULTS

Please refer to Appendix E.

7.6. FREQUENCY STABILITY

Rule Part:
FCC: §2.1055, §22.355, §24.235, §27.54, §90,
RSS-132, RSS-133,RSS-139

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.

RSS-132 section 5.3
The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within each of the sub-bands when tested at the temperature and supply voltage variations specified in RSS-Gen.

RSS-133 section 6.3
The carrier frequency shall not depart from the reference frequency, in excess of ±2.5 ppm for mobile stations and ±1.0 ppm for base stations.
In lieu of meeting the above stability values, the test report may show that the frequency stability is sufficient to ensure that the emission bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

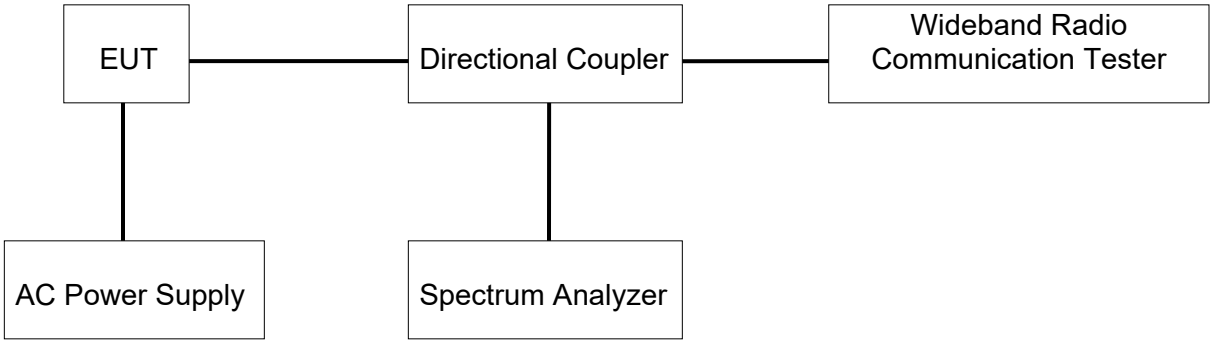
RSS-139 section 6.4
The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

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): 24.7 °C	T_L (Low Temperature): -30 °C
		T_H (High Temperature): 50 °C
Supply Voltage	V_N (Normal Voltage): AC 120 V, 60 HZ	V_L (Low Voltage): AC 108 V
		V_H (High Voltage): AC 132 V

TEST SETUP



TEST ENVIRONMENT

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	/

RESULTS

Please refer to Appendix F.

8. APPENDIX

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

8.1.1. Test Result

WCDMA Band 2		Average Power (dBm)		
		9262CH	9400CH	9538CH
REL99	12.2kbps RMC	20.24	20.07	**20.53**
	64kbps RMC	20.09	19.88	20.4
	144kbps RMC	20.12	19.94	20.38
	384kbps RMC	20.11	19.93	20.41
HSDPA	Subtest 1	**20.17**	19.38	19.96
	Subtest 2	19.98	19.34	19.95
	Subtest 3	19.97	19.34	19.94
	Subtest 4	19.97	19.33	19.93
HSUPA	Subtest 1	17.46	17.06	17.85
	Subtest 2	17.63	17.29	17.86
	Subtest 3	17.62	17.29	17.84
	Subtest 4	17.6	17.27	17.84
	Subtest 5	**20.02**	19.33	19.92
WCDMA Band 4		Average Power (dBm)		
		1312CH	1413CH	1513CH
REL99	12.2kbps RMC	19.82	19.64	**20.09**
	64kbps RMC	19.72	19.46	19.99
	144kbps RMC	19.69	19.51	19.99
	384kbps RMC	19.68	19.48	19.91
HSDPA	Subtest 1	19.06	18.86	19.17
	Subtest 2	19.09	18.68	**19.17**
	Subtest 3	18.66	18.45	19.07
	Subtest 4	18.92	18.68	19.16
HSUPA	Subtest 1	17.74	17.63	18.06
	Subtest 2	17.86	17.89	18.07
	Subtest 3	17.88	17.92	18.09
	Subtest 4	17.9	17.92	18.11
	Subtest 5	18.39	19.33	**19.73**
WCDMA Band 5		Average Power (dBm)		
		4132CH	4182CH	4233CH
REL99	12.2kbps RMC	21.83	21.68	**22.08**
	64kbps RMC	21.66	21.48	21.98
	144kbps RMC	21.63	21.56	21.88
	384kbps RMC	21.73	21.48	21.89
HSDPA	Subtest 1	20.51	20.6	20.66
	Subtest 2	20.68	20.58	20.67
	Subtest 3	20.67	20.59	20.66

	Subtest 4	**20.69**	20.59	20.66
HSUPA	Subtest 1	19.44	19.18	19.57
	Subtest 2	19.33	19.43	19.53
	Subtest 3	19.3	19.39	19.51
	Subtest 4	19.3	19.41	19.53
	Subtest 5	20.35	20.47	**20.59**

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	3.06	13	PASS
Band4	1413	2.64	13	PASS
Band5	4182	3.04	13	PASS

HSDPA:

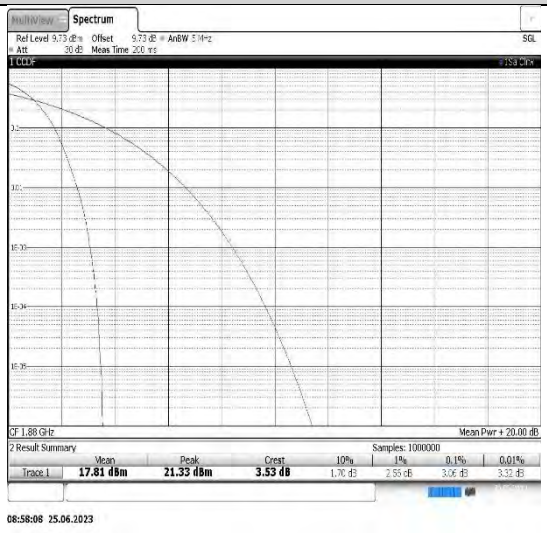
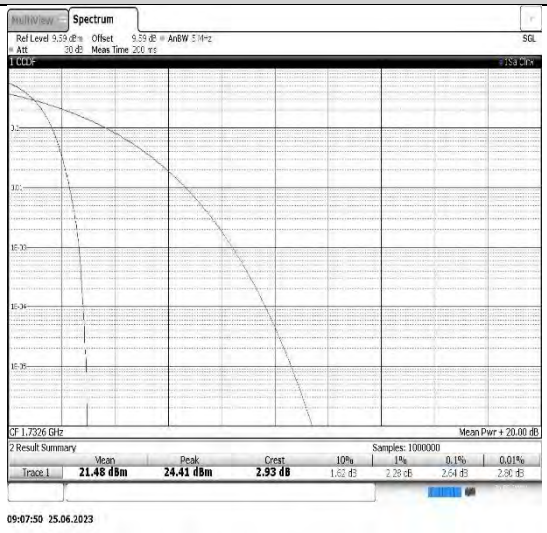
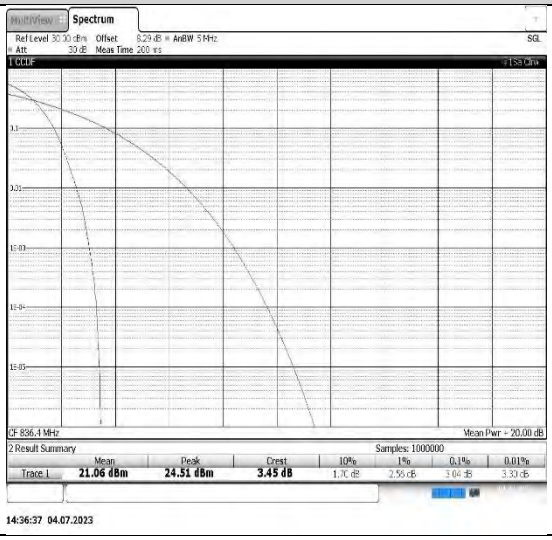
Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	4	3.8	13	PASS
Band4	1413	4	3.1	13	PASS
Band5	4182	4	3.14	13	PASS

HSUPA:

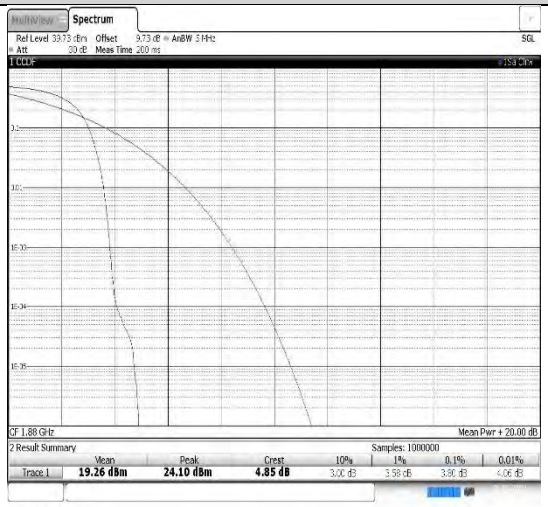
Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	5	4.06	13	PASS
Band4	1413	5	4.60	13	PASS
Band5	4182	5	4.52	13	PASS

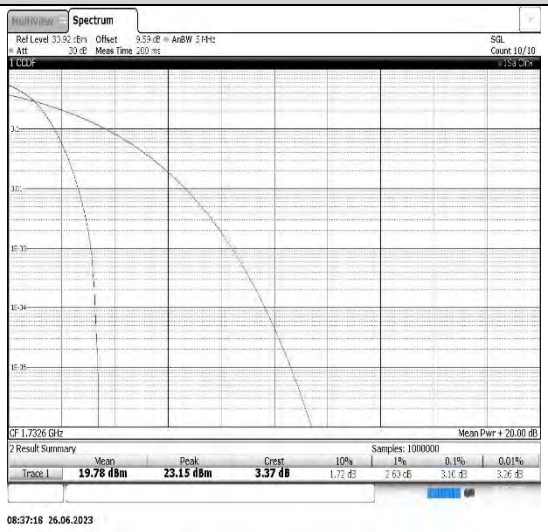
8.2.2. Test Graphs

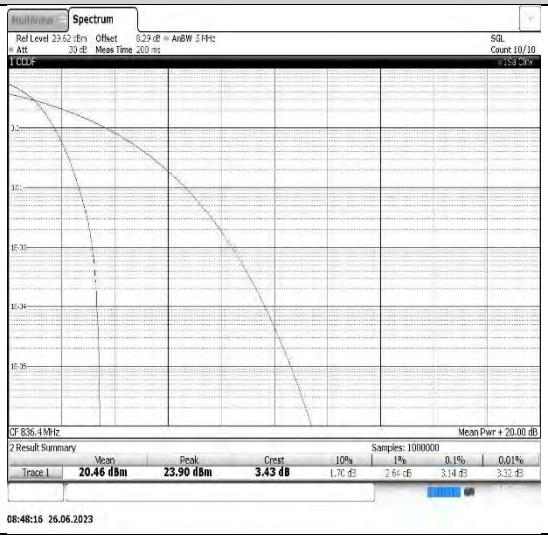
REL99:

Band2-9400	Band4-1413
	
Band5-4182	
	

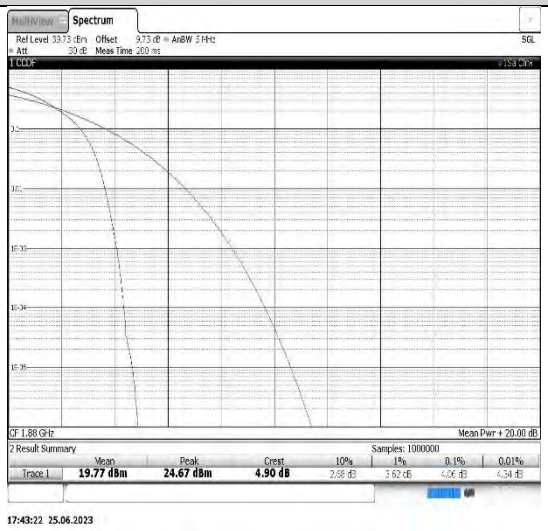
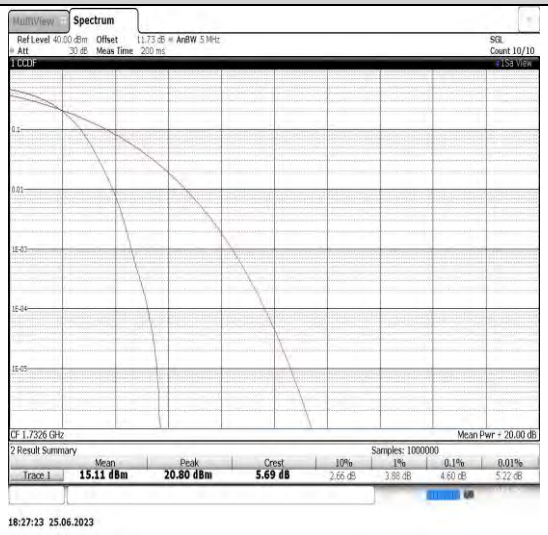
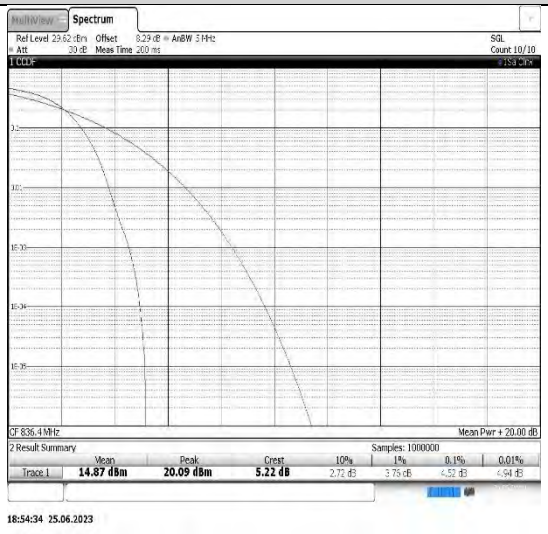
HSDPA:

Band2-9400-4


Band4-1413-4


Band5-4182-4


HSUPA:

Band2-9400-5

Band4-1413-5

Band5-4182-5


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	4.166	4.70	---	PASS
Band4	1413	4.173	4.72	---	PASS
Band5	4182	4.169	4.71	---	PASS

HSDPA:

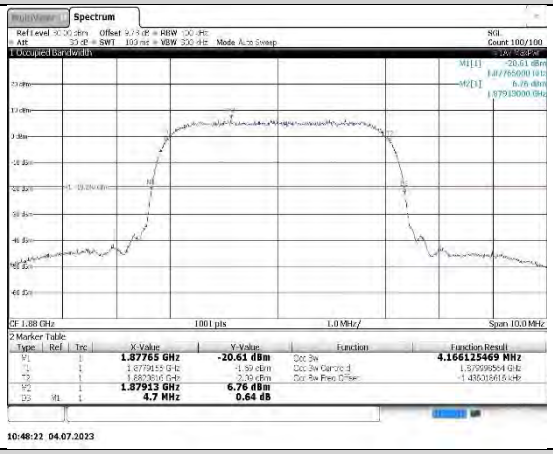
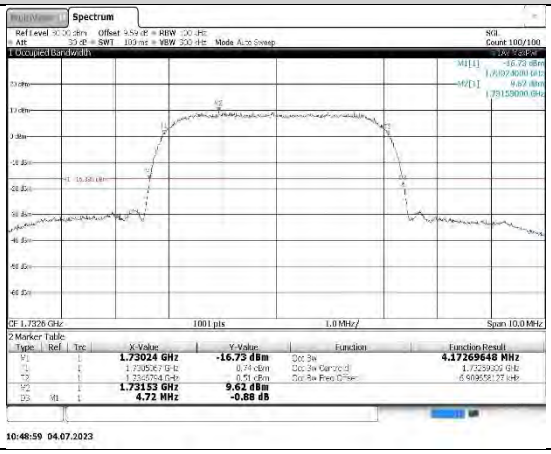
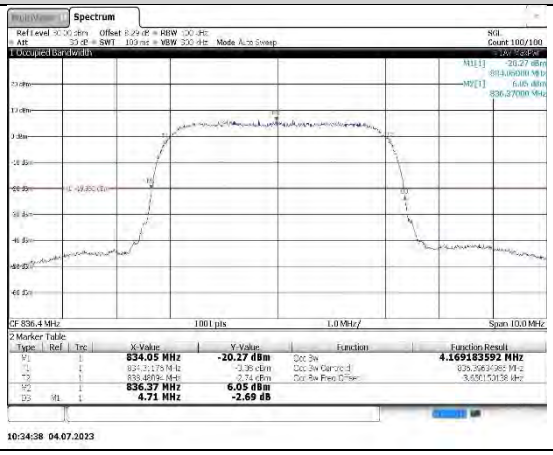
Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	4	4.162	4.69	---	PASS
Band4	1413	4	4.155	4.68	---	PASS
Band5	4182	4	4.163	4.69	---	PASS

HSUPA:

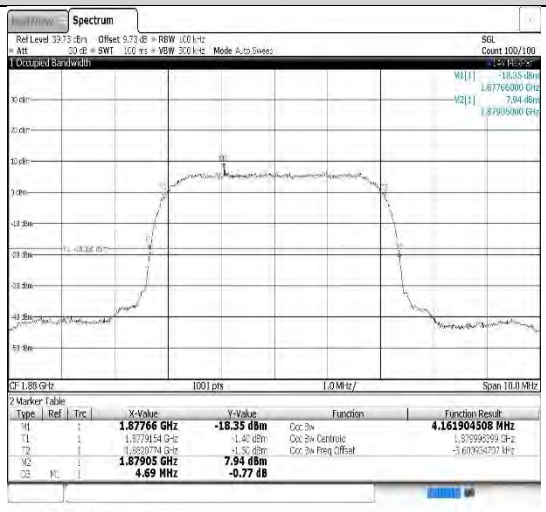
Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	5	4.164	4.69	---	PASS
Band4	1413	5	4.163	4.70	---	PASS
Band5	4182	5	4.161	4.70	---	PASS

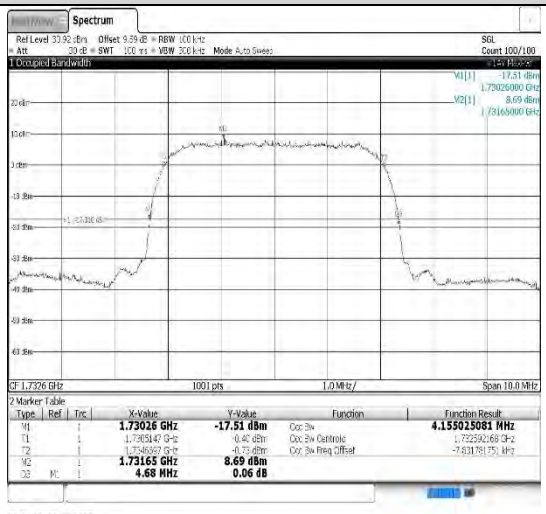
8.3.2. Test Graphs

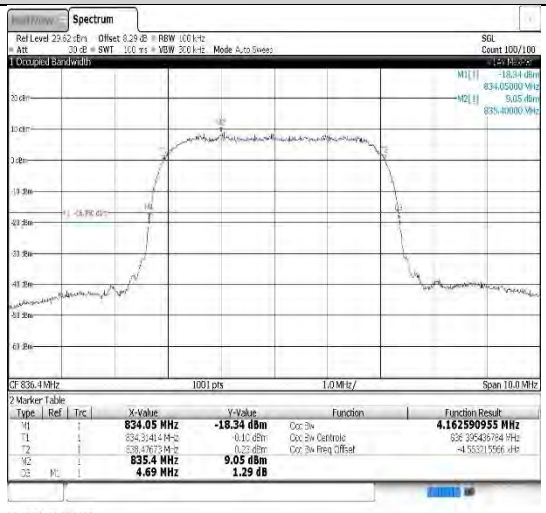
REL99:

Band2-9400	Band4-1413
	
Band5-4182	
	

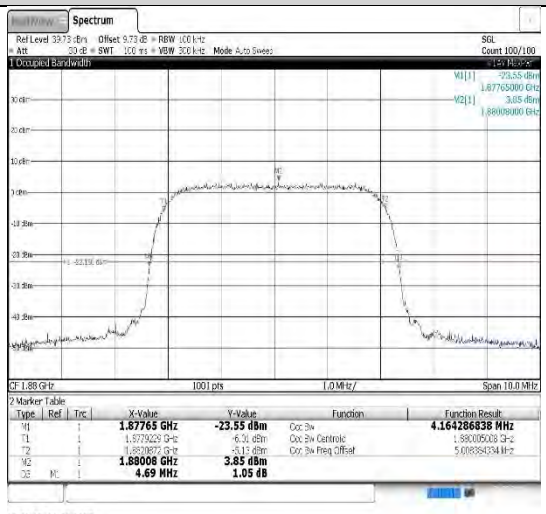
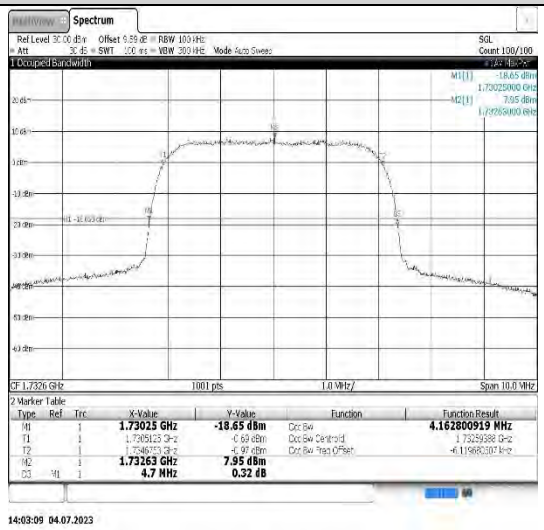
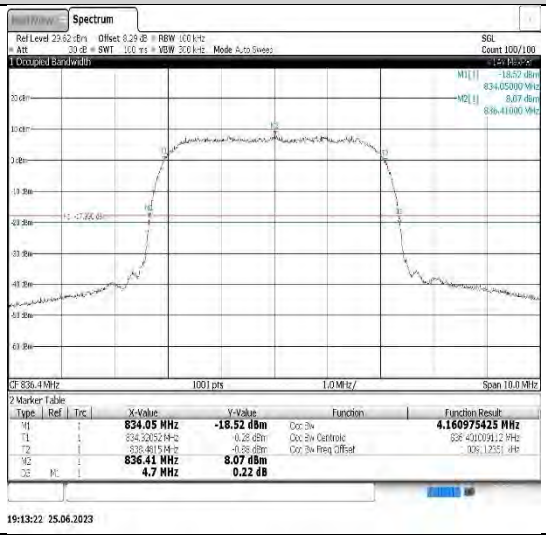
HSDPA:

Band2-9400-4


Band4-1413-4


Band5-4182-4


HSUPA:

Band2-9400-5

Band4-1413-5

Band5-4182-5


8.4. AppendixD:Band Edge

8.4.1. Test Result

REL99:

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1850.00	-30.87	-13	PASS
Band2	9538	1910.00	-34.93	-13	PASS
Band4	1312	1709.93	-36.26	-13	PASS
Band4	1513	1755.00	-33.10	-13	PASS
Band5	4132	824.00	-36.73	-13	PASS
Band5	4233	849.00	-33.82	-13	PASS

HSDPA:

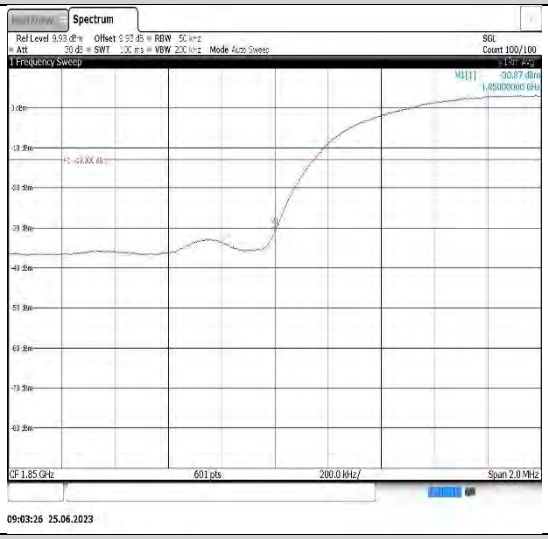
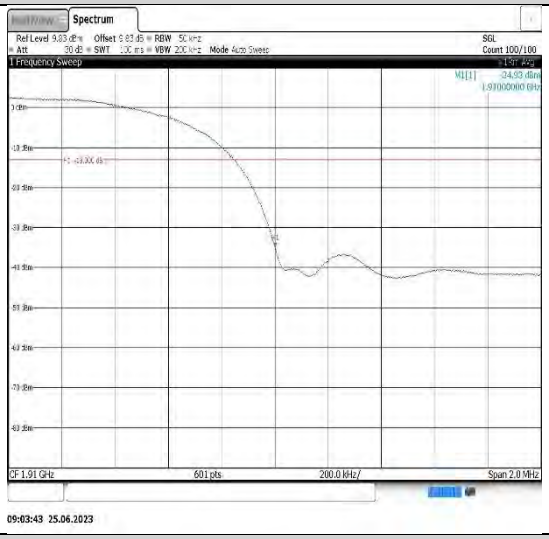
Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	4	1849.92	-31.21	-13	PASS
Band2	9538	4	1910.07	-34.94	-13	PASS
Band4	1312	4	1710.00	-38.57	-13	PASS
Band4	1513	4	1755.08	-36.11	-13	PASS
Band5	4132	4	823.94	-35.8	-13	PASS
Band5	4233	4	849.00	-36.22	-13	PASS

HSUPA:

Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	5	1850.00	-29.93	-13	PASS
Band2	9538	5	1910.00	-34.9	-13	PASS
Band4	1312	5	1709.93	-37.72	-13	PASS
Band4	1513	5	1755.07	-36.21	-13	PASS
Band5	4132	5	823.94	-37.05	-13	PASS
Band5	4233	5	849.00	-36.36	-13	PASS

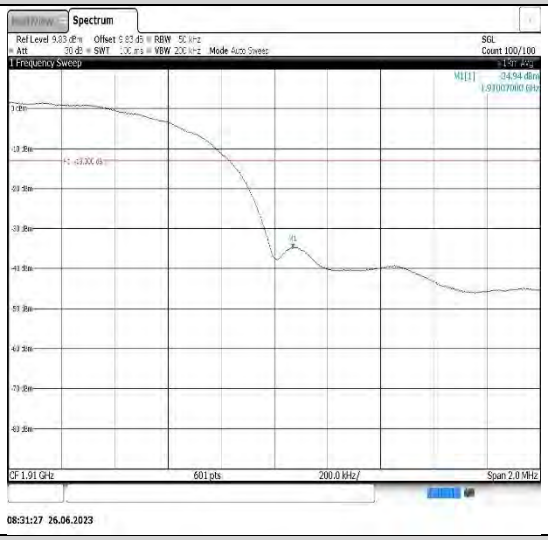
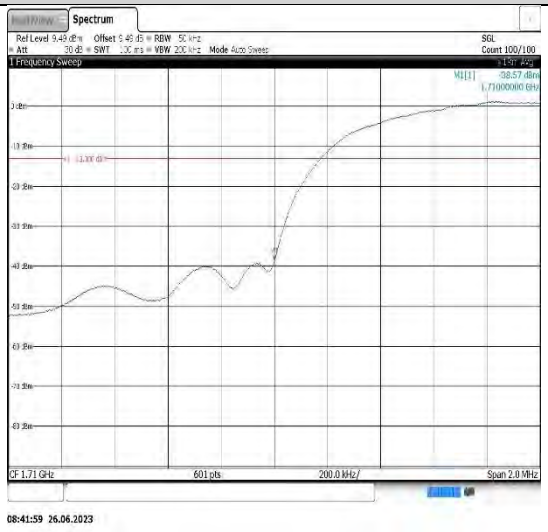
8.4.2. Test Graphs

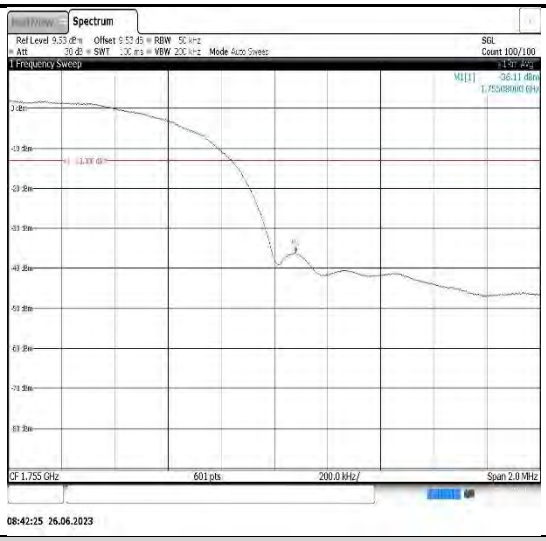
REL99:

Band2-9262	Band2-9538
	
Band4-1312	**Band4-1513**
	
Band5-4132	**Band5-4233**

HSDPA:

Band2-9262-4

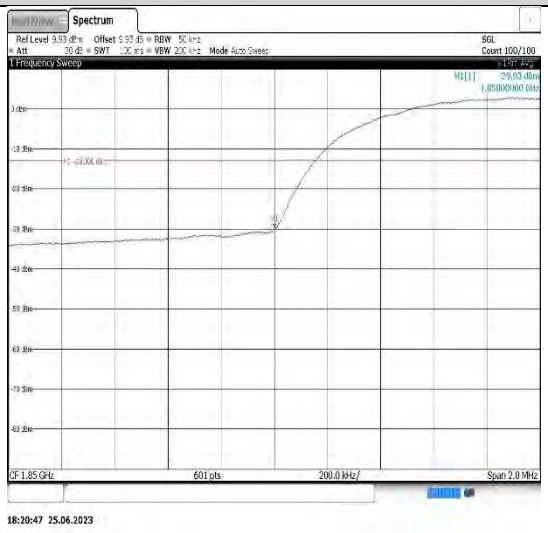
Band2-9538-4

Band4-1312-4

Band4-1513-4

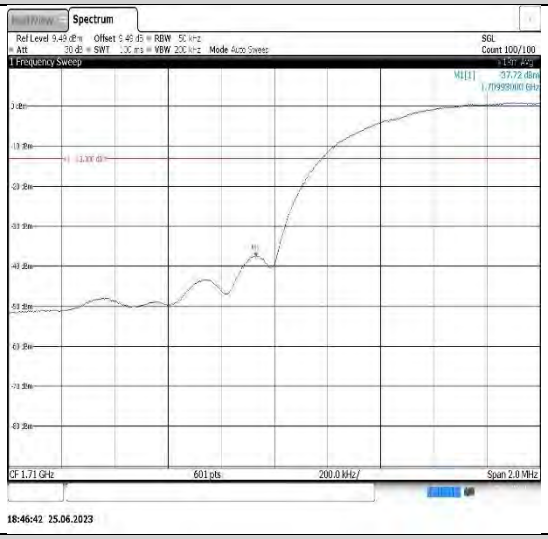


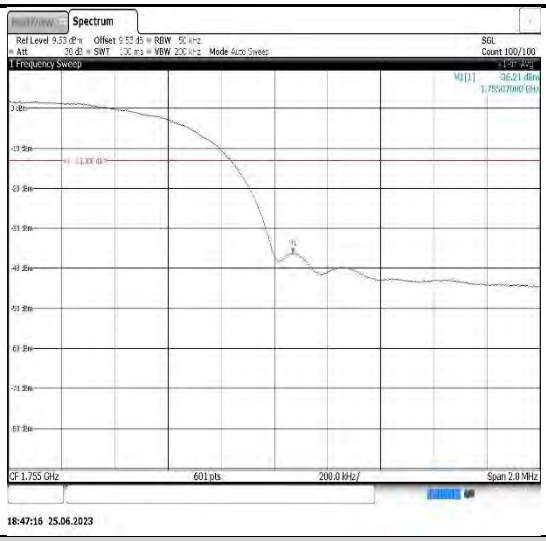
Band5-4132-4

Band5-4233-4

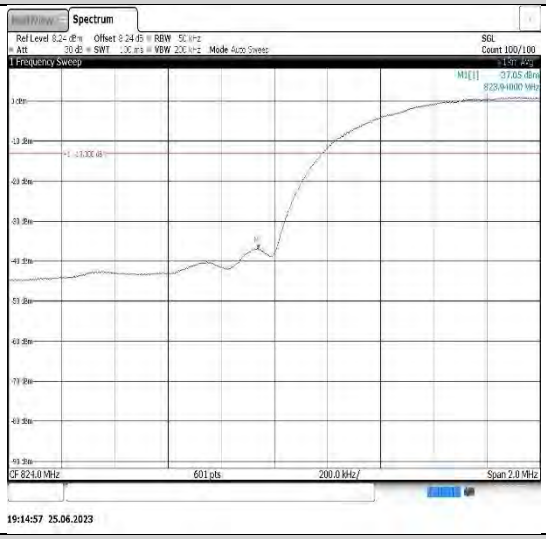
HSUPA:

Band2-9262-5

Band2-9538-5

Band4-1312-5

Band4-1513-5



Band5-4132-5



Band5-4233-5

8.5. AppendixE:Conducted SpuriousEmission

8.5.1. Test Result

REL99:

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	0.009~0.15MHz	0.04	-66.61	-43	PASS
Band2	9262	0.15~30MHz	0.3	-66.78	-23	PASS
Band2	9262	30~1000MHz	555.71	-45.31	-13	PASS
Band2	9262	1000~20000MHz	7078.1	-37.03	-13	PASS
Band2	9400	0.009~0.15MHz	0.04	-66.68	-43	PASS
Band2	9400	0.15~30MHz	3.62	-67.72	-23	PASS
Band2	9400	30~1000MHz	561.46	-45.76	-13	PASS
Band2	9400	1000~20000MHz	7898.27	-36.88	-13	PASS
Band2	9538	0.009~0.15MHz	0.04	-68.5	-43	PASS
Band2	9538	0.15~30MHz	3.84	-68.15	-23	PASS
Band2	9538	30~1000MHz	991.67	-44.43	-13	PASS
Band2	9538	1000~20000MHz	7085.07	-37.18	-13	PASS
Band4	1312	0.009~0.15MHz	0.04	-66.01	-43	PASS
Band4	1312	0.15~30MHz	3.62	-68.31	-23	PASS
Band4	1312	30~1000MHz	605.53	-45.61	-13	PASS
Band4	1312	1000~20000MHz	7060.37	-36.83	-13	PASS
Band4	1413	0.009~0.15MHz	0.04	-68.46	-43	PASS
Band4	1413	0.15~30MHz	0.3	-68.26	-23	PASS
Band4	1413	30~1000MHz	565.18	-45.76	-13	PASS
Band4	1413	1000~20000MHz	7884.33	-36.45	-13	PASS
Band4	1513	0.009~0.15MHz	0.04	-66.8	-43	PASS
Band4	1513	0.15~30MHz	0.75	-68.28	-23	PASS
Band4	1513	30~1000MHz	932.99	-45.82	-13	PASS
Band4	1513	1000~20000MHz	7038.83	-36.54	-13	PASS
Band5	4132	0.009~0.15MHz	0.04	-66.47	-33	PASS
Band5	4132	0.15~30MHz	3.84	-66.54	-13	PASS
Band5	4132	30~1000MHz	541.19	-54.54	-13	PASS
Band5	4132	1000~10000MHz	3310.07	-32.22	-13	PASS
Band5	4182	0.009~0.15MHz	0.04	-68.21	-33	PASS
Band5	4182	0.15~30MHz	3.62	-67.16	-13	PASS
Band5	4182	30~1000MHz	550.47	-53.3	-13	PASS
Band5	4182	1000~10000MHz	3340.97	-32.96	-13	PASS
Band5	4233	0.009~0.15MHz	0.04	-66.68	-33	PASS
Band5	4233	0.15~30MHz	3.62	-67.78	-13	PASS
Band5	4233	30~1000MHz	537.28	-54.56	-13	PASS
Band5	4233	1000~10000MHz	3383.27	-30.45	-13	PASS

HSDPA:

Band	Channel	SubTest	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	4	0.15~30MHz	3.63	-67.51	-23	PASS
Band2	9262	4	30~1000MHz	886.21	-45.21	-13	PASS
Band2	9262	4	1000~20000MHz	7983.77	-36.74	-13	PASS
Band2	9262	4	0.009~0.15MHz	0.04	-68.37	-43	PASS
Band2	9400	4	0.009~0.15MHz	0.04	-67.79	-43	PASS
Band2	9400	4	0.15~30MHz	0.3	-68.2	-23	PASS

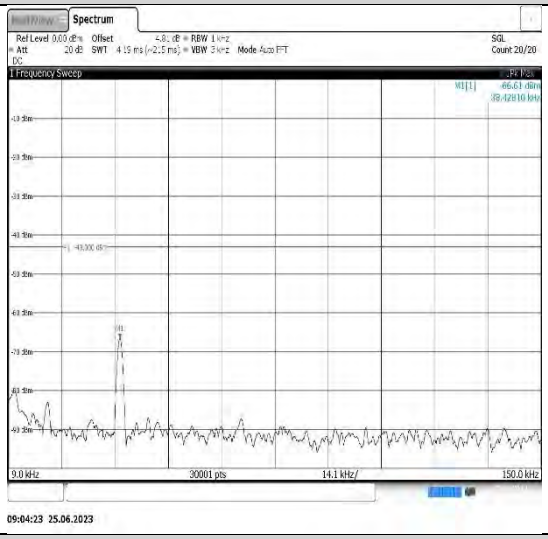
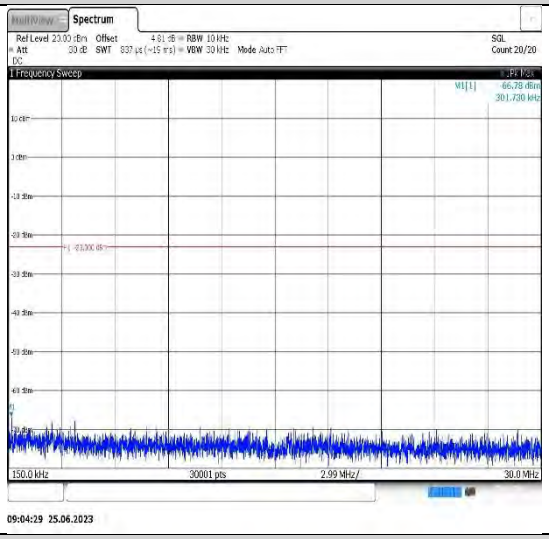
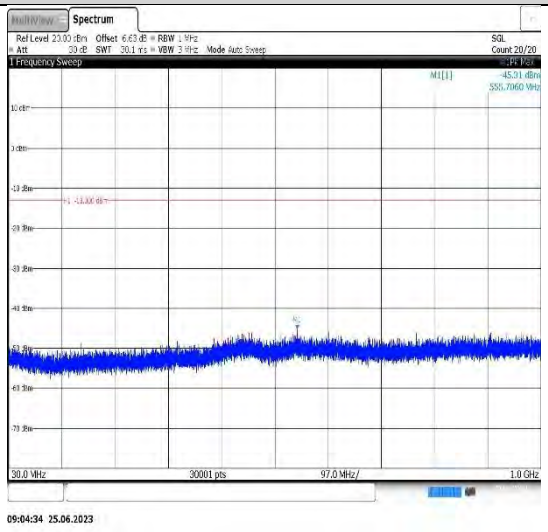
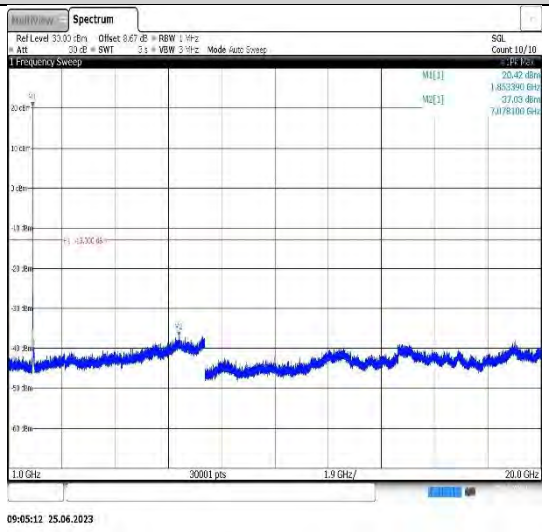
Band2	9400	4	30~1000MHz	615.62	-45.43	-13	PASS
Band2	9400	4	1000~20000MHz	7036.3	-36.41	-13	PASS
Band2	9538	4	0.009~0.15MHz	0.04	-70.83	-43	PASS
Band2	9538	4	1000~20000MHz	7029.33	-35.99	-13	PASS
Band2	9538	4	0.15~30MHz	3.62	-66.8	-23	PASS
Band2	9538	4	30~1000MHz	621.83	-44.94	-13	PASS
Band4	1312	4	0.009~0.15MHz	0.04	-67.64	-43	PASS
Band4	1312	4	0.15~30MHz	3.62	-67.38	-23	PASS
Band4	1312	4	30~1000MHz	955.88	-45.45	-13	PASS
Band4	1312	4	1000~20000MHz	7967.93	-36.68	-13	PASS
Band4	1413	4	0.15~30MHz	3.61	-66.99	-23	PASS
Band4	1413	4	30~1000MHz	580.76	-45.47	-13	PASS
Band4	1413	4	1000~20000MHz	7877.37	-36.78	-13	PASS
Band4	1413	4	0.009~0.15MHz	0.04	-69.82	-43	PASS
Band4	1513	4	0.009~0.15MHz	0.04	-68.42	-43	PASS
Band4	1513	4	0.15~30MHz	3.62	-67.21	-23	PASS
Band4	1513	4	30~1000MHz	546.3	-45.18	-13	PASS
Band4	1513	4	1000~20000MHz	6985	-36.42	-13	PASS
Band5	4132	4	30~1000MHz	546.01	-54.02	-13	PASS
Band5	4132	4	1000~10000MHz	3309.77	-33.26	-13	PASS
Band5	4132	4	0.15~30MHz	3.62	-67.46	-13	PASS
Band5	4132	4	0.009~0.15MHz	0.04	-67.82	-33	PASS
Band5	4182	4	0.15~30MHz	3.62	-66.46	-13	PASS
Band5	4182	4	30~1000MHz	533.4	-54.9	-13	PASS
Band5	4182	4	1000~10000MHz	3349.67	-33.32	-13	PASS
Band5	4182	4	0.009~0.15MHz	0.04	-69.07	-33	PASS
Band5	4233	4	1000~10000MHz	3382.07	-30.99	-13	PASS
Band5	4233	4	0.009~0.15MHz	0.04	-68.6	-33	PASS
Band5	4233	4	0.15~30MHz	3.62	-67.02	-13	PASS
Band5	4233	4	30~1000MHz	529.71	-53.92	-13	PASS

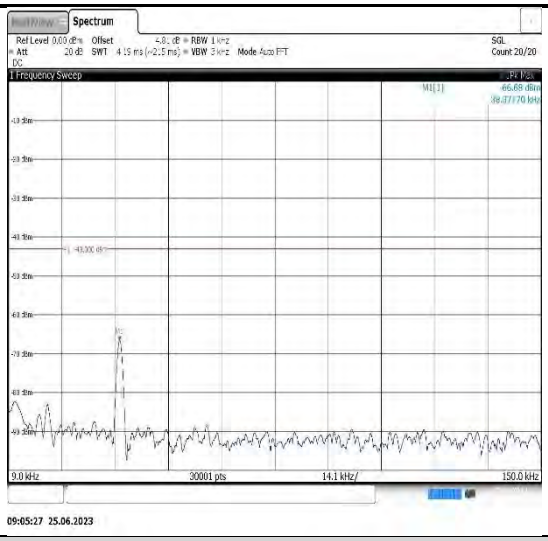
HSUPA:

Band	Channel	SubTest	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	5	0.15~30MHz	3.61	-68.04	-23	PASS
Band2	9262	5	30~1000MHz	871.95	-46.21	-13	PASS
Band2	9262	5	1000~20000MHz	7027.43	-36.18	-13	PASS
Band2	9262	5	0.009~0.15MHz	0.04	-68.03	-43	PASS
Band2	9400	5	0.009~0.15MHz	0.04	-69.66	-43	PASS
Band2	9400	5	0.15~30MHz	3.63	-66	-23	PASS
Band2	9400	5	30~1000MHz	902.21	-45.73	-13	PASS
Band2	9400	5	1000~20000MHz	7966.03	-36.65	-13	PASS
Band2	9538	5	0.009~0.15MHz	0.04	-67.79	-43	PASS
Band2	9538	5	1000~20000MHz	7077.47	-35.35	-13	PASS
Band2	9538	5	0.15~30MHz	3.62	-67.58	-23	PASS
Band2	9538	5	30~1000MHz	578.73	-45.93	-13	PASS
Band4	1312	5	0.009~0.15MHz	0.04	-68.36	-43	PASS
Band4	1312	5	0.15~30MHz	3.62	-66.85	-23	PASS
Band4	1312	5	30~1000MHz	950.84	-45.35	-13	PASS
Band4	1312	5	1000~20000MHz	7913.47	-36.85	-13	PASS
Band4	1413	5	0.15~30MHz	3.62	-66.95	-23	PASS
Band4	1413	5	30~1000MHz	988.22	-45.63	-13	PASS
Band4	1413	5	1000~20000MHz	6810.2	-36.69	-13	PASS
Band4	1413	5	0.009~0.15MHz	0.04	-67.9	-43	PASS
Band4	1513	5	0.009~0.15MHz	0.04	-68.25	-43	PASS
Band4	1513	5	0.15~30MHz	0.3	-67.99	-23	PASS
Band4	1513	5	30~1000MHz	843.92	-45.64	-13	PASS
Band4	1513	5	1000~20000MHz	7129.4	-36.32	-13	PASS
Band5	4132	5	30~1000MHz	968.38	-54.35	-13	PASS
Band5	4132	5	1000~10000MHz	3310.07	-32.26	-13	PASS
Band5	4132	5	0.15~30MHz	0.31	-66.78	-13	PASS
Band5	4132	5	0.009~0.15MHz	0.04	-68.26	-33	PASS
Band5	4182	5	0.15~30MHz	3.62	-68.04	-13	PASS
Band5	4182	5	30~1000MHz	506.69	-54.22	-13	PASS
Band5	4182	5	1000~10000MHz	3342.17	-32.4	-13	PASS
Band5	4182	5	0.009~0.15MHz	0.04	-67.59	-33	PASS
Band5	4233	5	1000~10000MHz	3390.17	-30.45	-13	PASS
Band5	4233	5	0.009~0.15MHz	0.04	-67.21	-33	PASS
Band5	4233	5	0.15~30MHz	3.67	-68.11	-13	PASS
Band5	4233	5	30~1000MHz	461.26	-54.46	-13	PASS

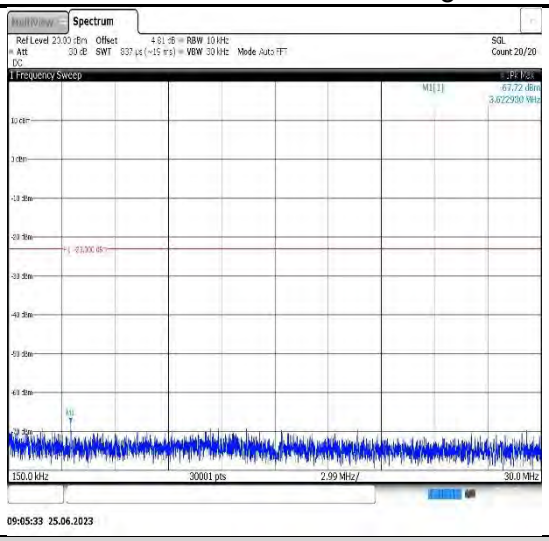
8.5.2. Test Graphs

REL99:

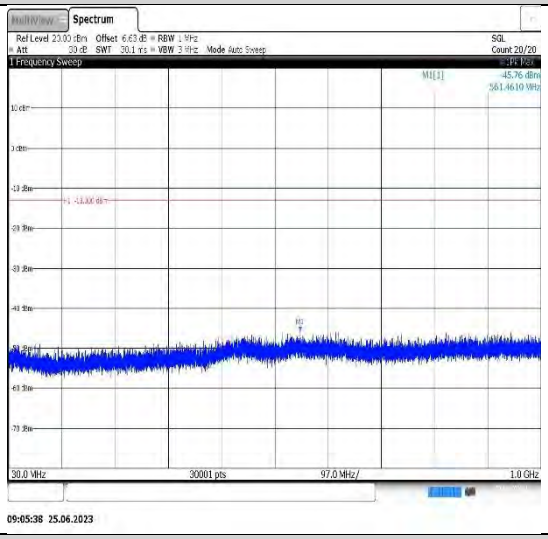
Band2-9262-0.009~0.15MHz	Band2-9262-0.15~30MHz
	
Band2-9262-30~1000MHz	**Band2-9262-1000~20000MHz**
	
Band2-9400-0.009~0.15MHz	**Band2-9400-0.15~30MHz**



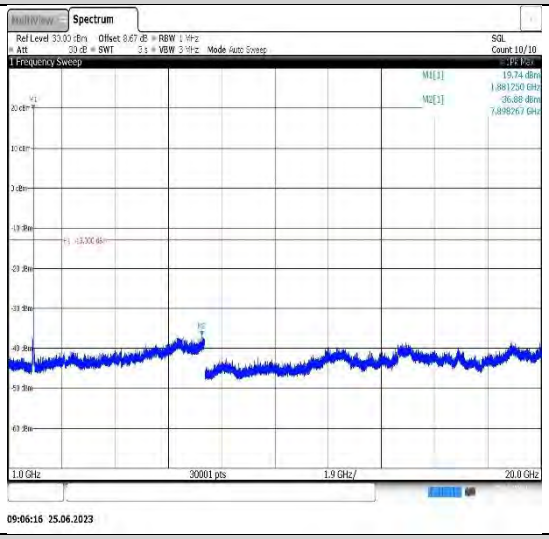
Band2-9400-30~1000MHz



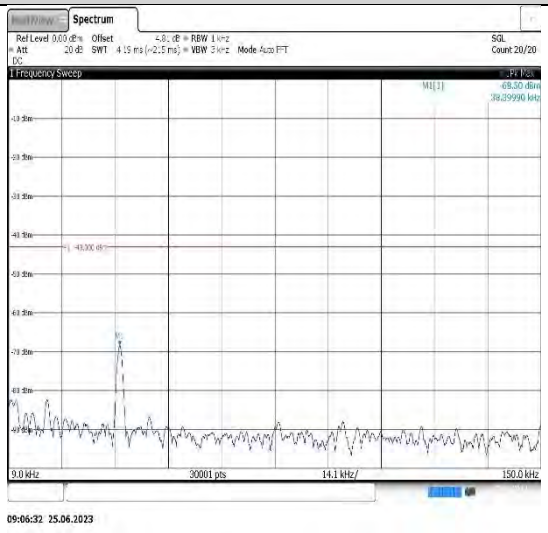
Band2-9400-1000~20000MHz



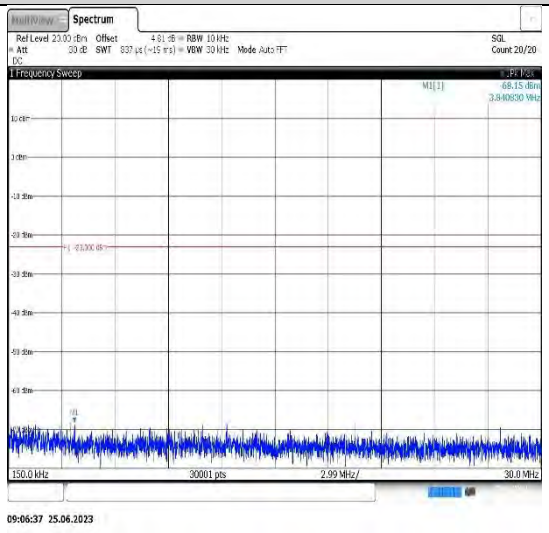
Band2-9538-0.009~0.15MHz



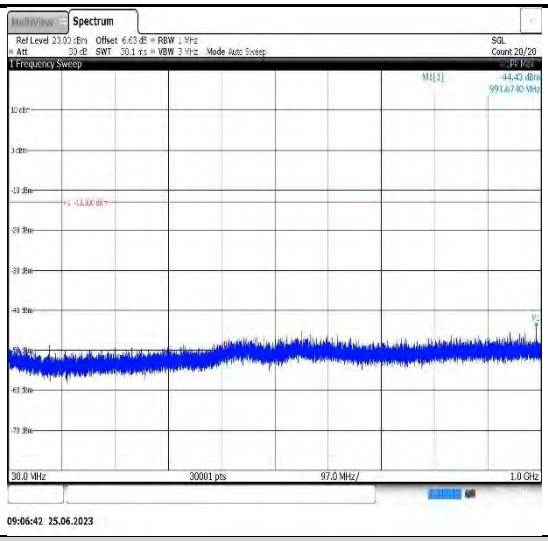
Band2-9538-0.15~30MHz



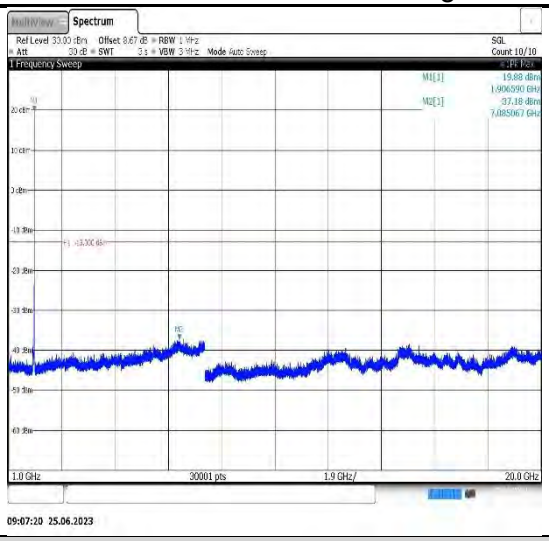
Band2-9538-30~1000MHz



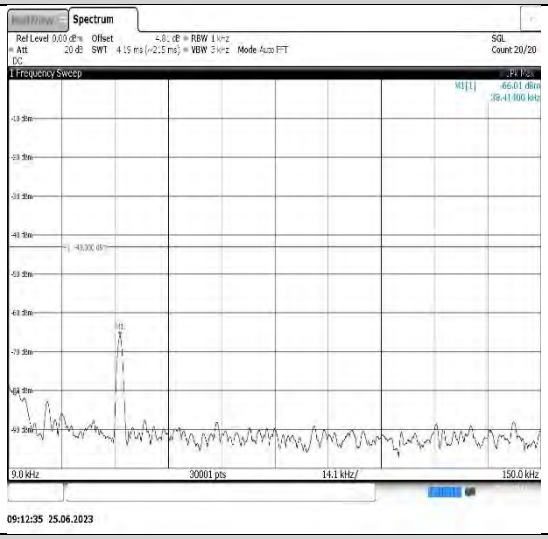
Band2-9538-1000~20000MHz



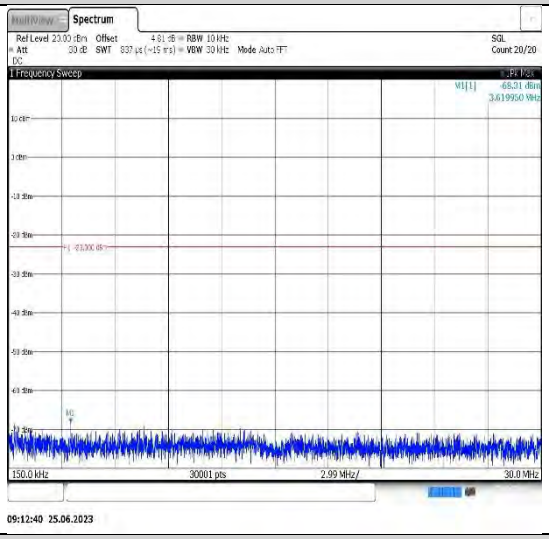
Band4-1312-0.009~0.15MHz



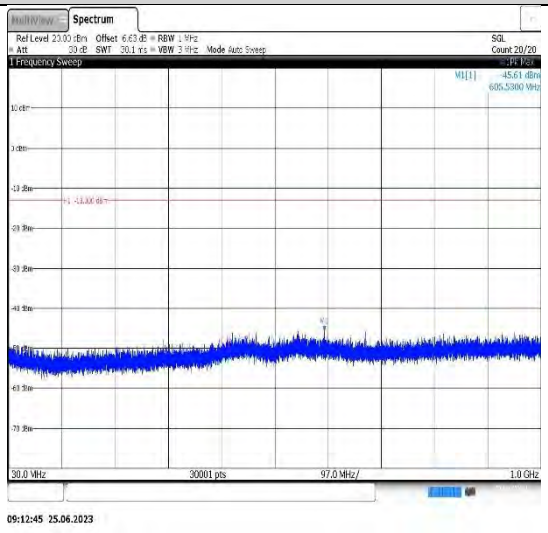
Band4-1312-0.15~30MHz



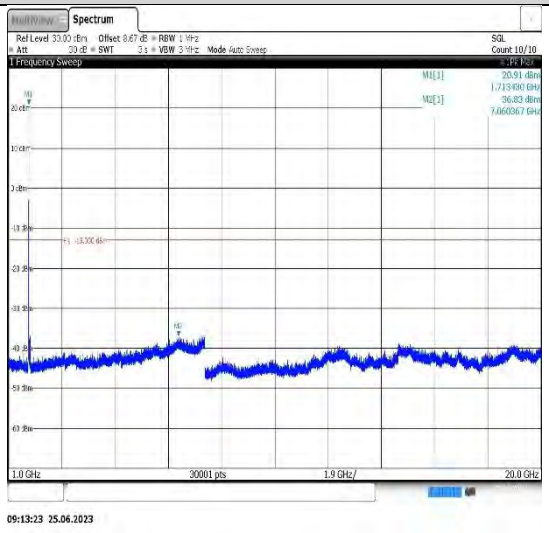
Band4-1312-30~1000MHz



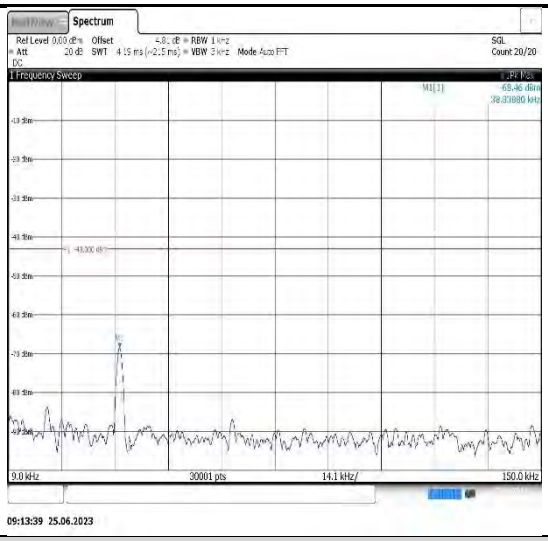
Band4-1312-1000~20000MHz



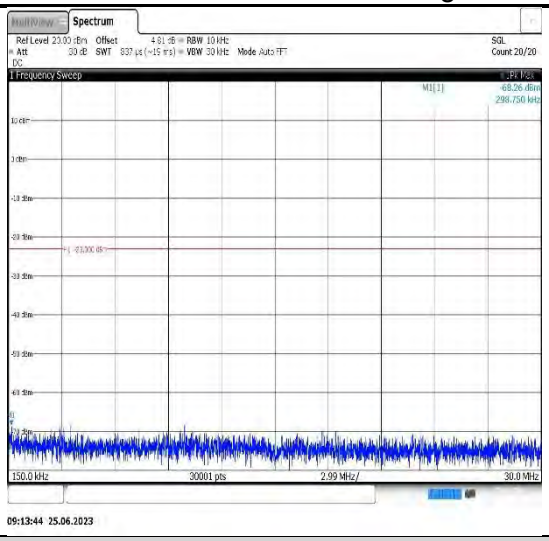
Band4-1413-0.009~0.15MHz



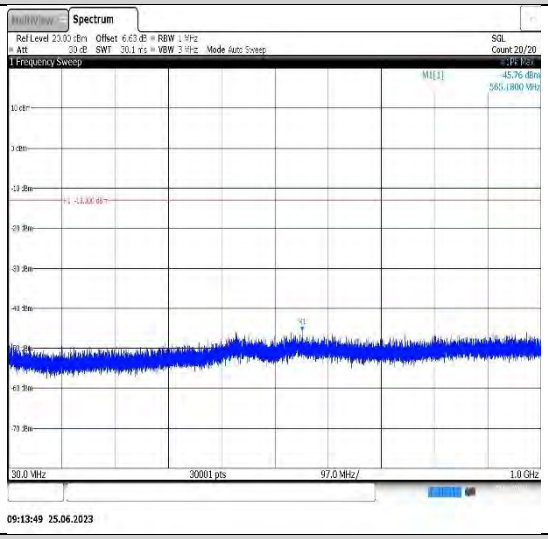
Band4-1413-0.15~30MHz



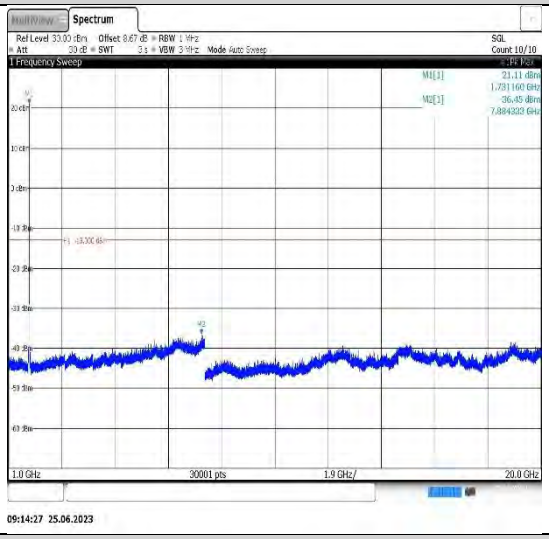
Band4-1413-30~1000MHz



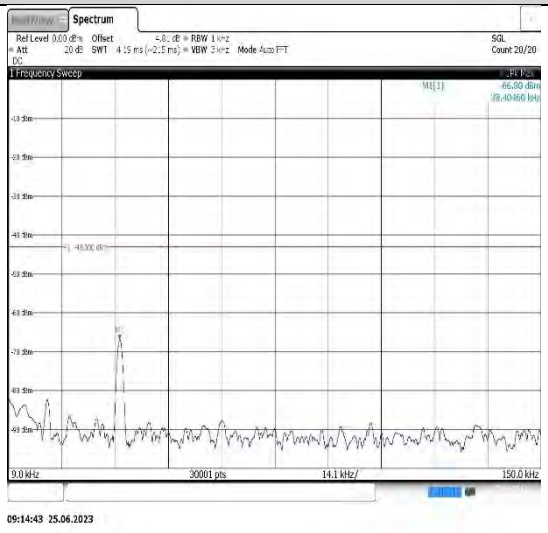
Band4-1413-1000~20000MHz



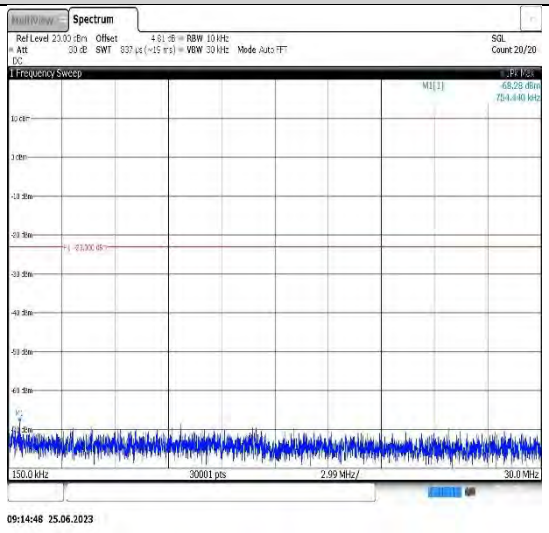
Band4-1513-0.009~0.15MHz



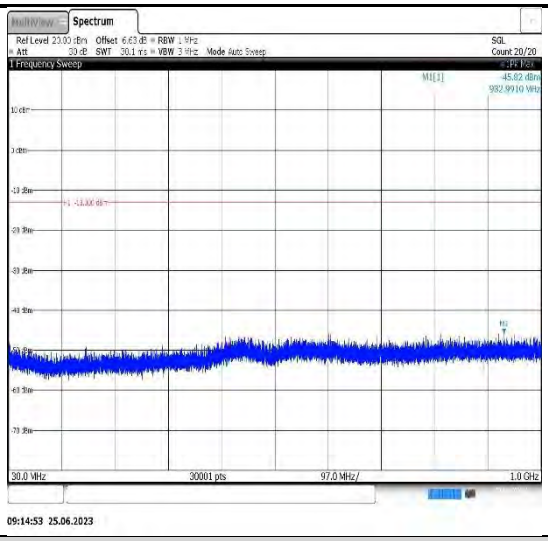
Band4-1513-0.15~30MHz



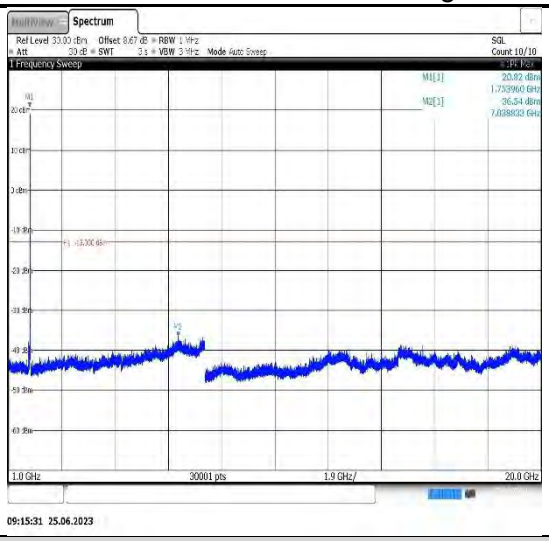
Band4-1513-30~1000MHz



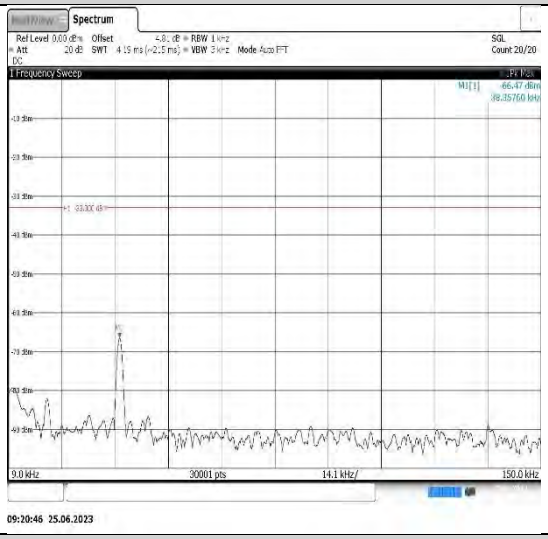
Band4-1513-1000~20000MHz



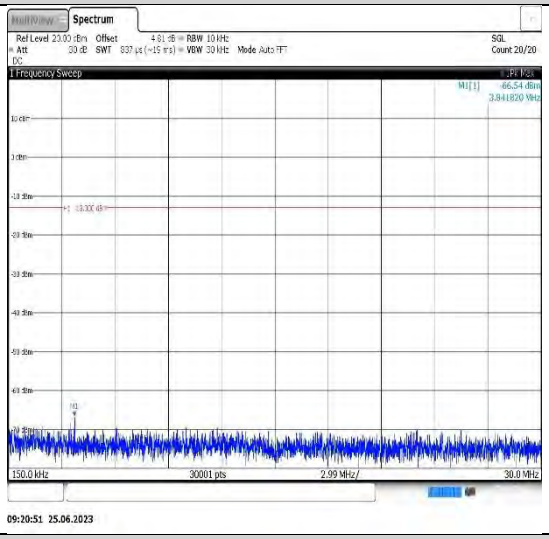
Band5-4132-0.009~0.15MHz



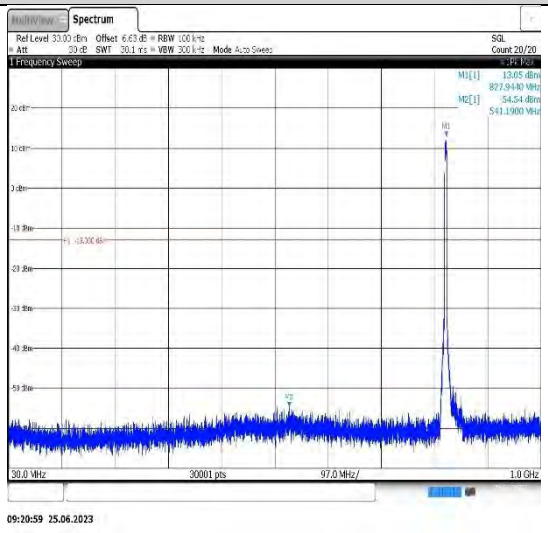
Band5-4132-0.15~30MHz



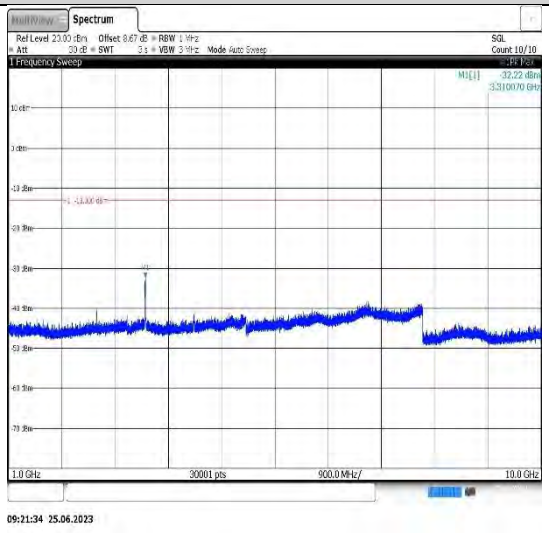
Band5-4132-30~1000MHz



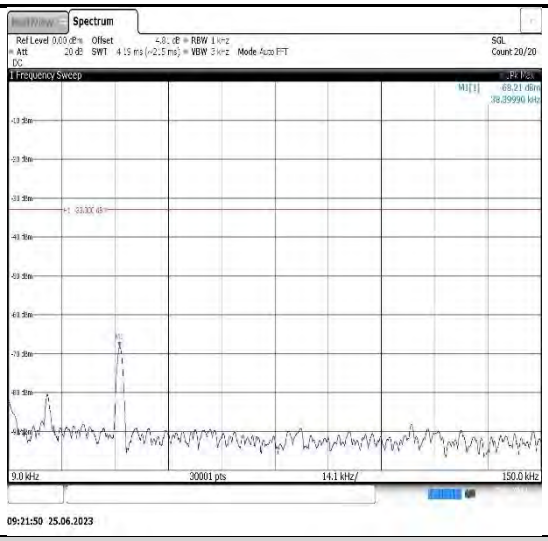
Band5-4132-1000~10000MHz



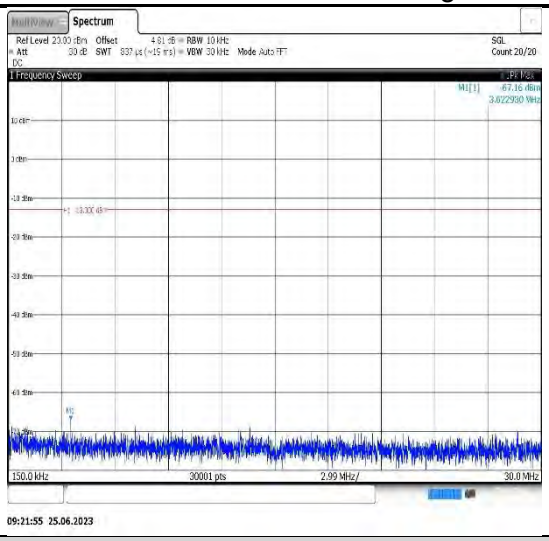
Band5-4182-0.009~0.15MHz



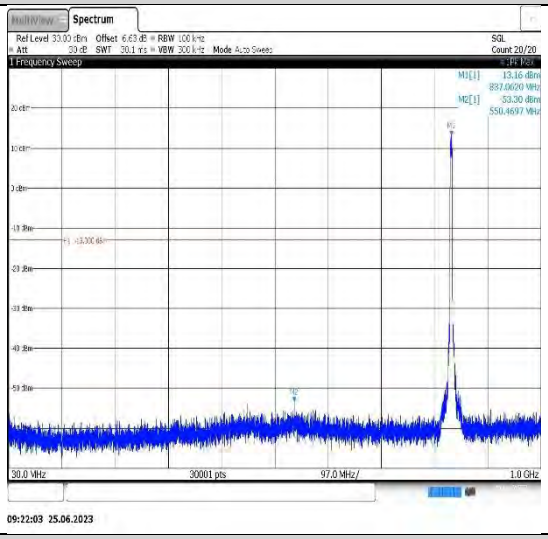
Band5-4182-0.15~30MHz



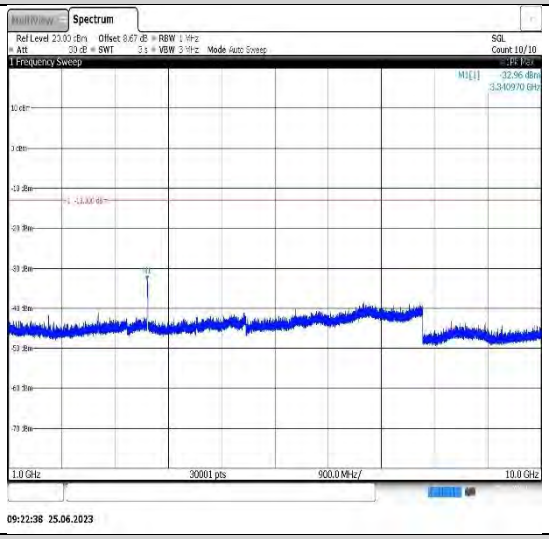
Band5-4182-30~1000MHz



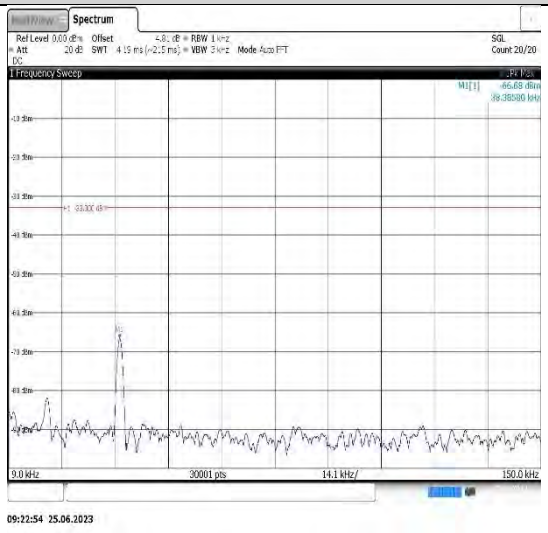
Band5-4182-1000~10000MHz



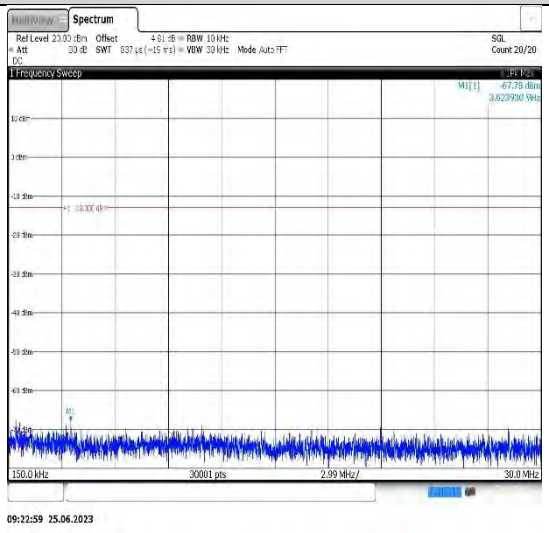
Band5-4233-0.009~0.15MHz



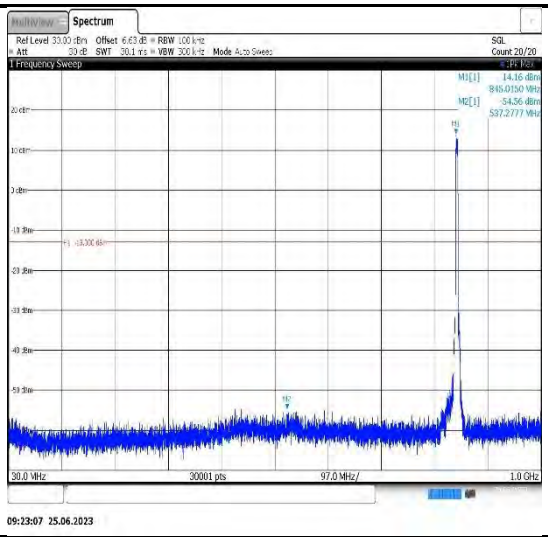
Band5-4233-0.15~30MHz

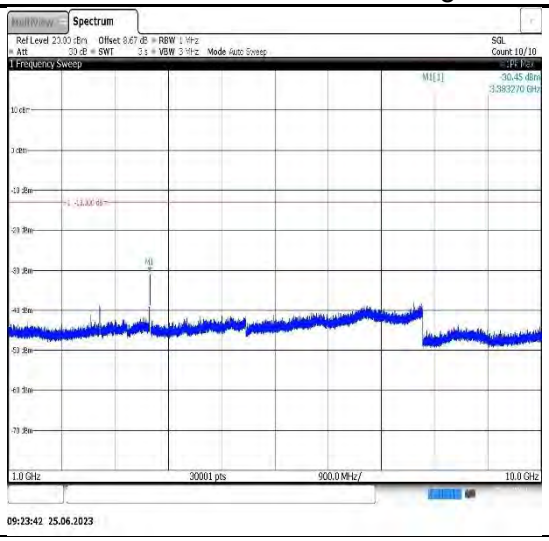


Band5-4233-30~1000MHz

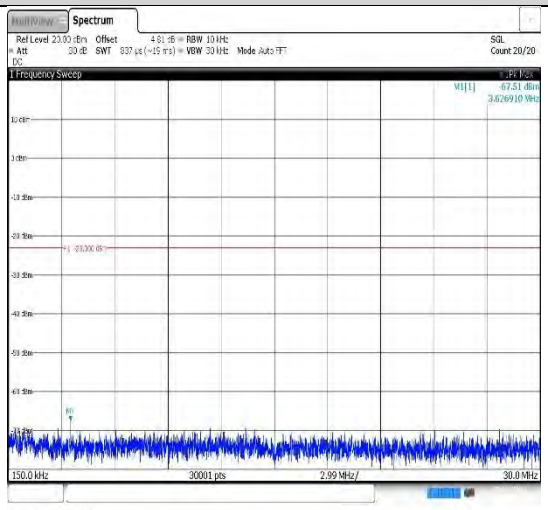
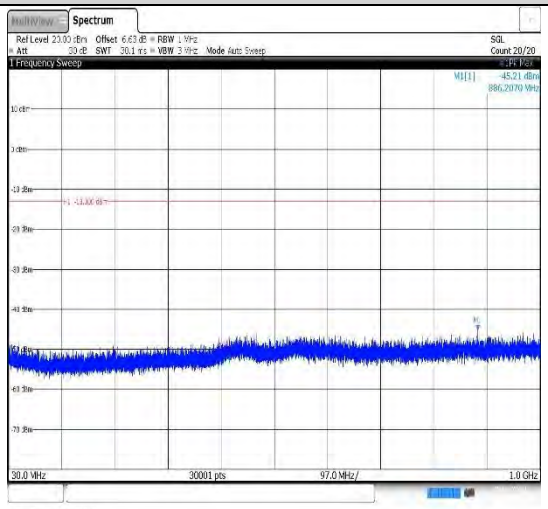
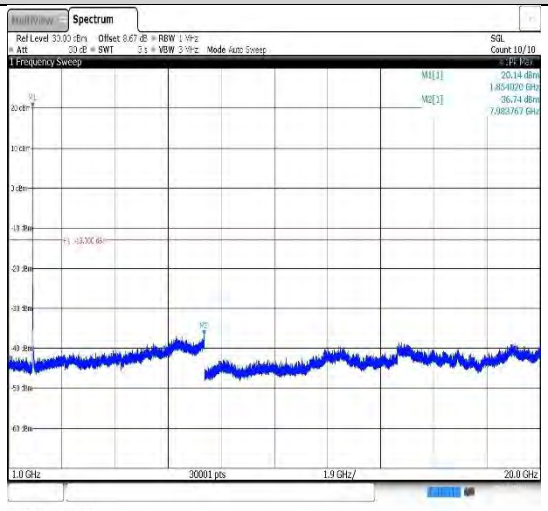


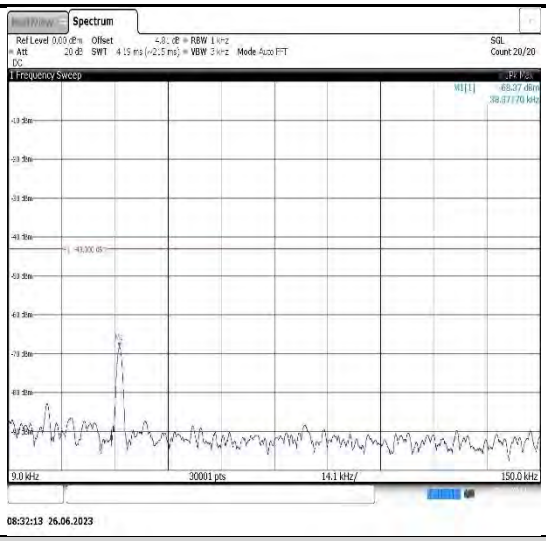
Band5-4233-1000~10000MHz



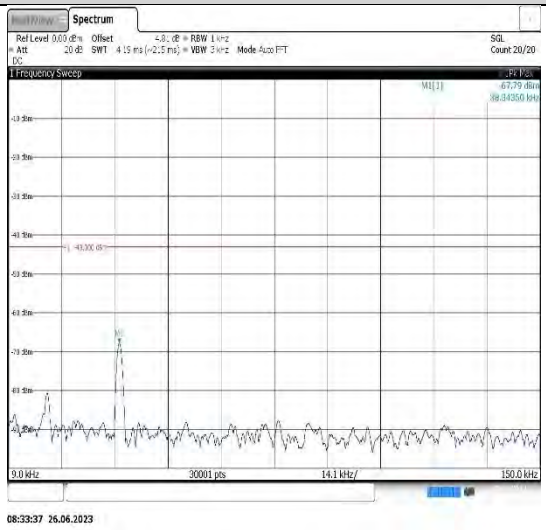


HSDPA:

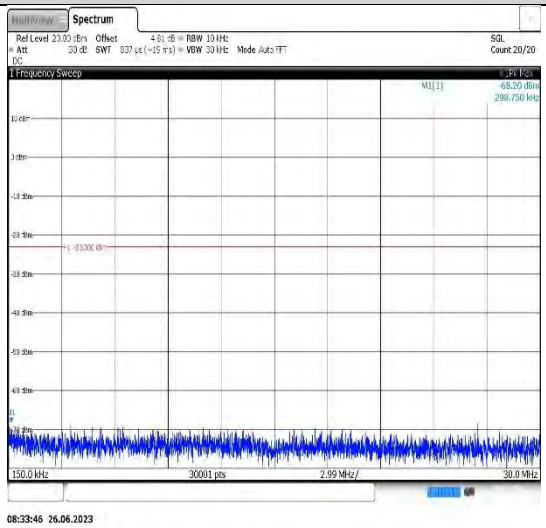
Band2-9262-4-0.15~30MHz

Band2-9262-4-30~1000MHz

Band2-9262-4-1000~20000MHz

Band2-9262-4-0.009~0.15MHz



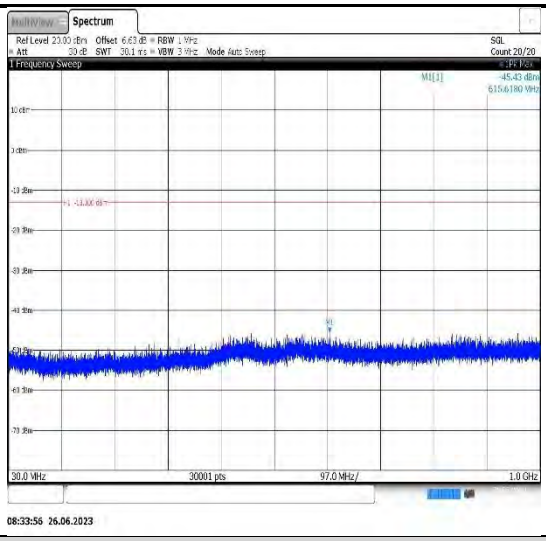
Band2-9400-4-0.009~0.15MHz



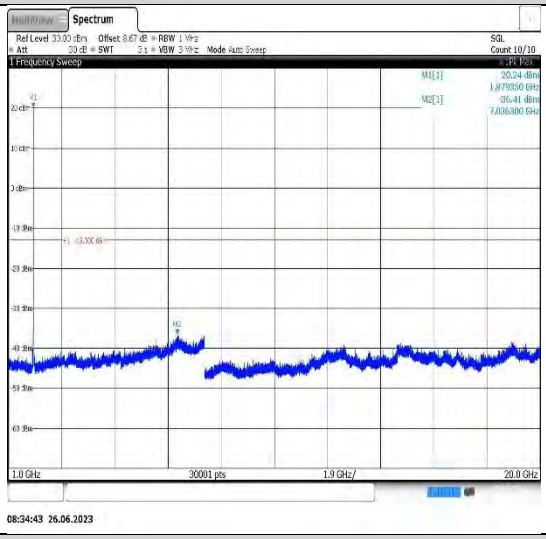
Band2-9400-4-0.15~30MHz



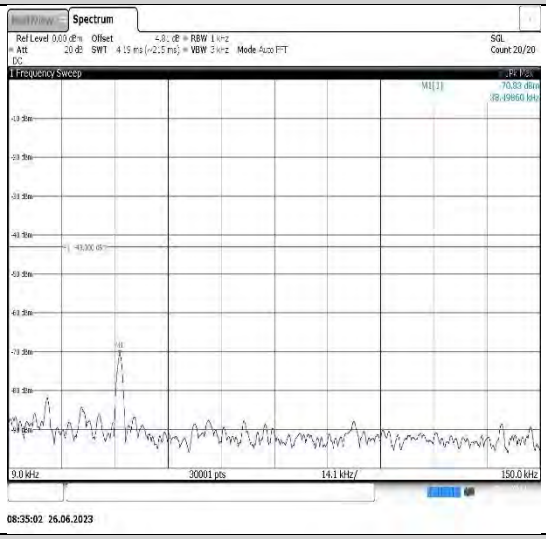
Band2-9400-4-30~1000MHz



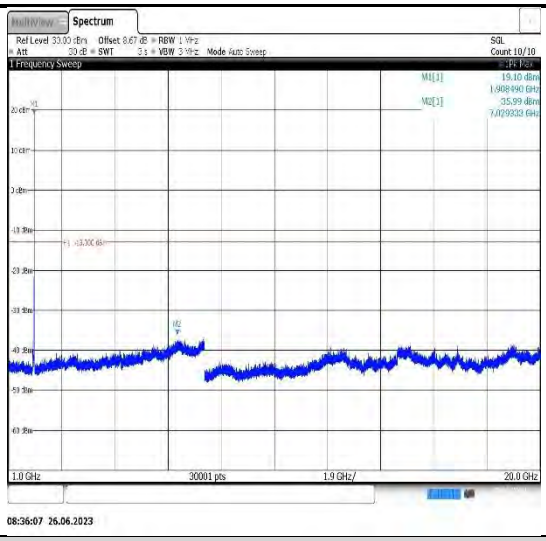
Band2-9400-4-1000~20000MHz



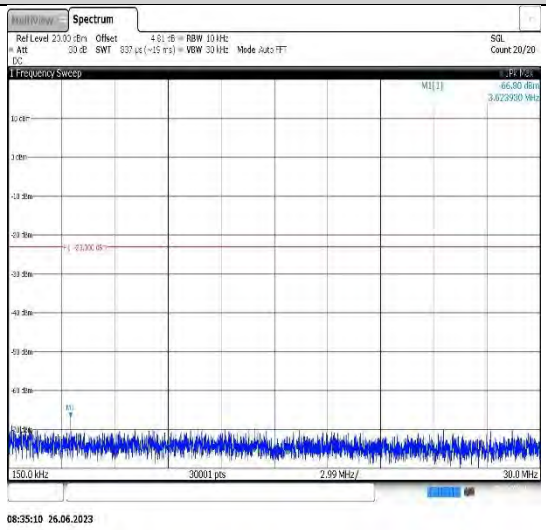
Band2-9538-4-0.009~0.15MHz



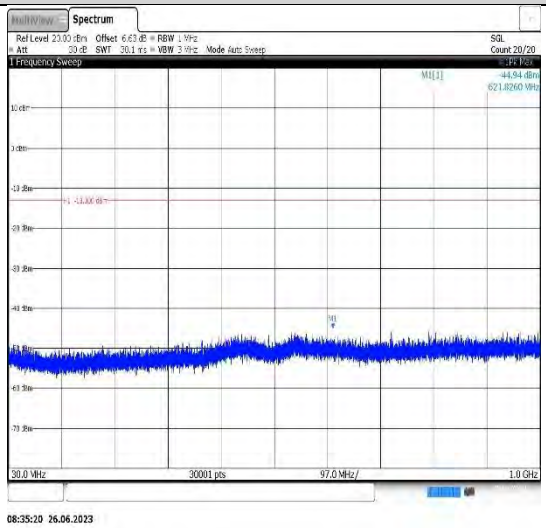
Band2-9538-4-1000~20000MHz



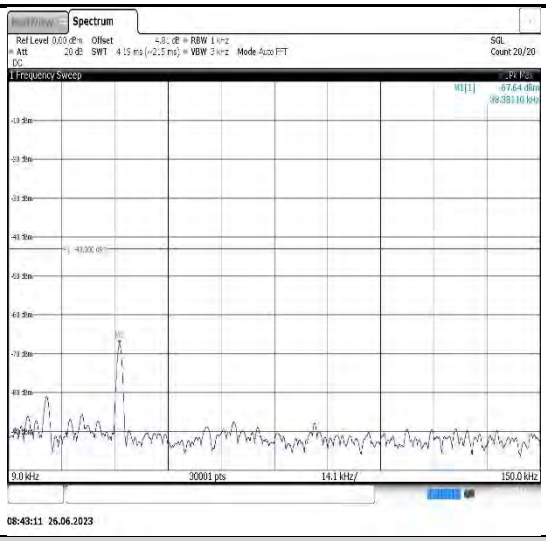
Band2-9538-4-0.15~30MHz



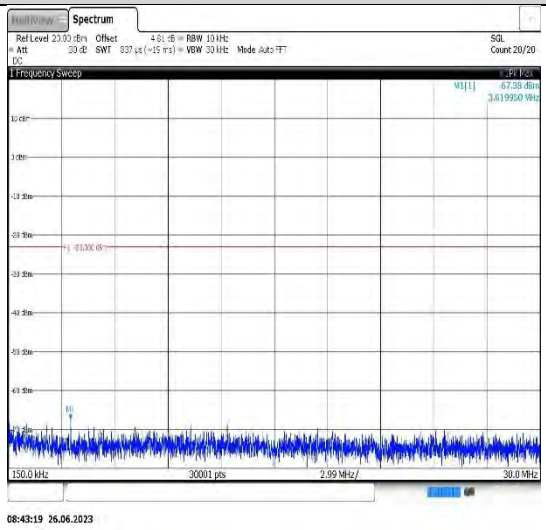
Band2-9538-4-30~1000MHz



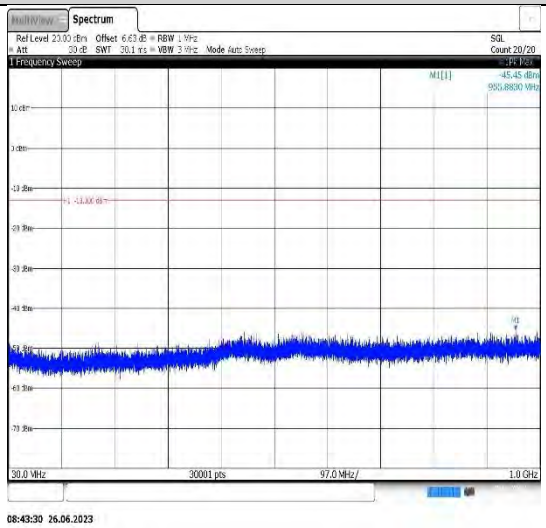
Band4-1312-4-0.009~0.15MHz



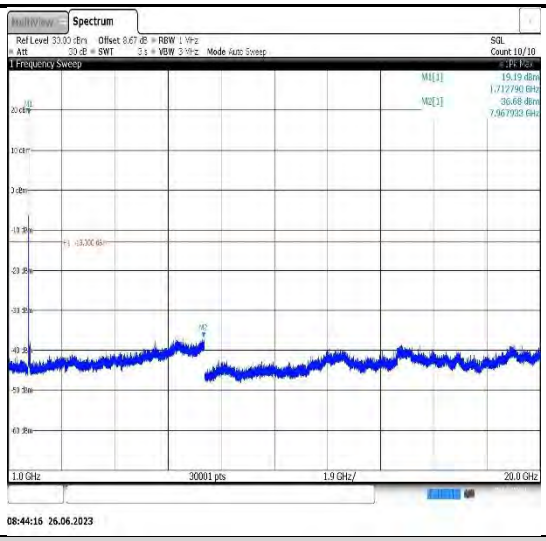
Band4-1312-4-0.15~30MHz



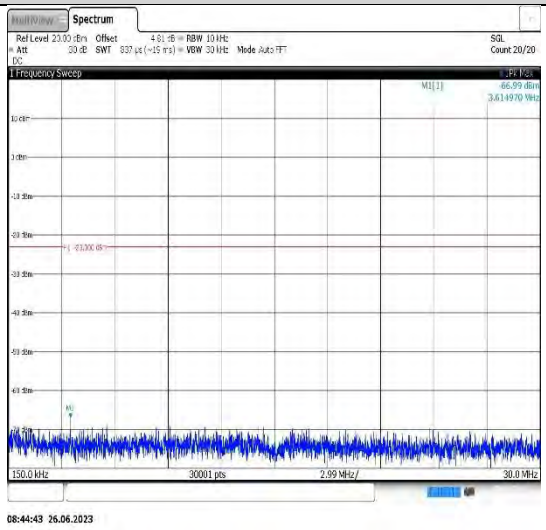
Band4-1312-4-30~1000MHz



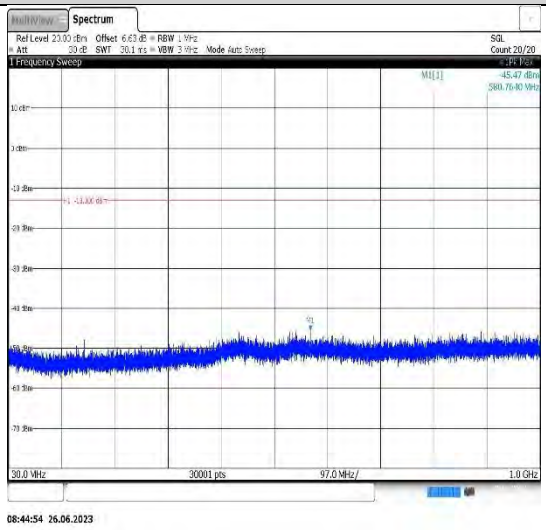
Band4-1312-4-1000~20000MHz



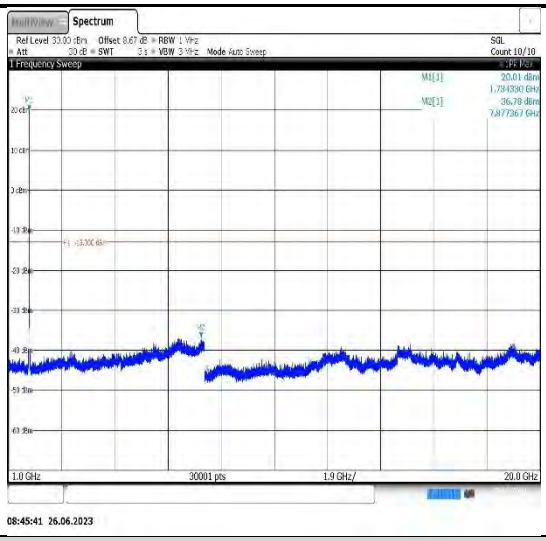
Band4-1413-4-0.15~30MHz



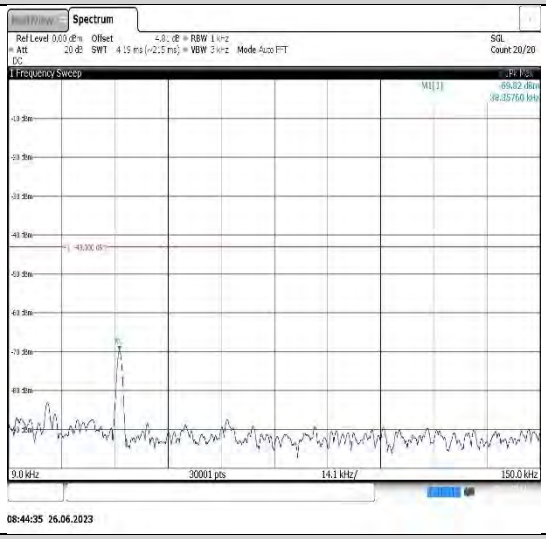
Band4-1413-4-30~1000MHz



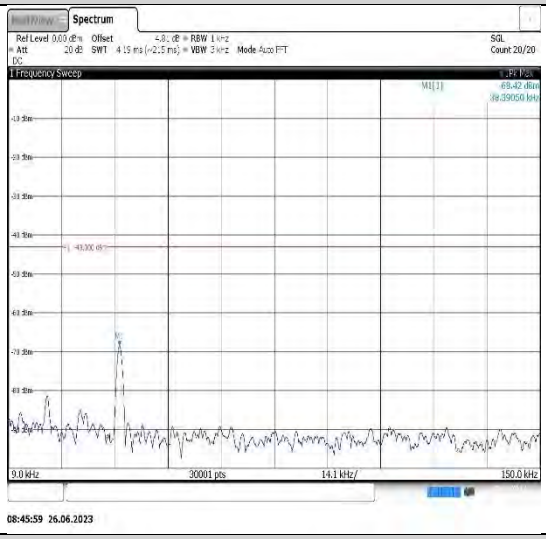
Band4-1413-4-1000~20000MHz



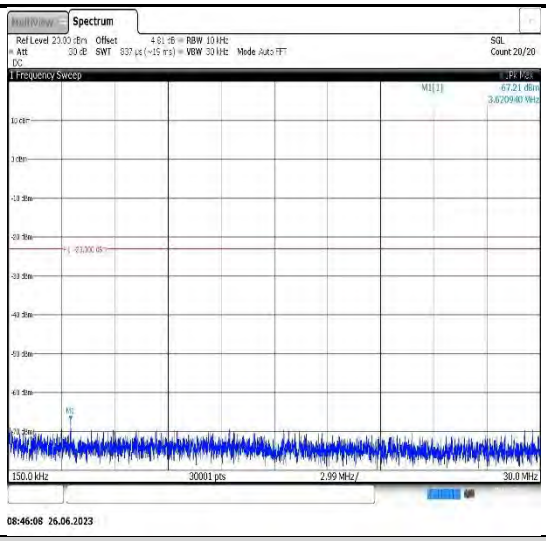
Band4-1413-4-0.009~0.15MHz



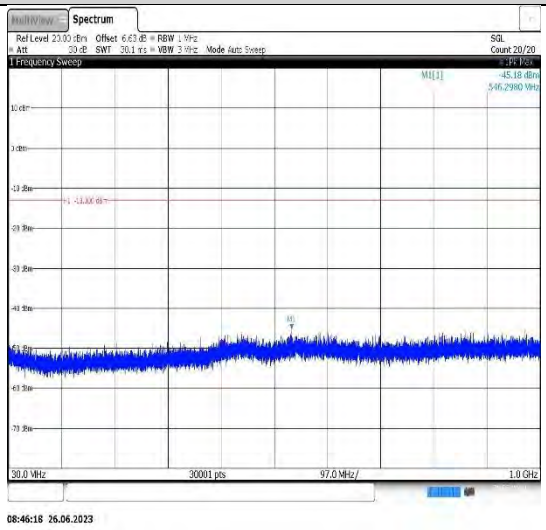
Band4-1513-4-0.009~0.15MHz



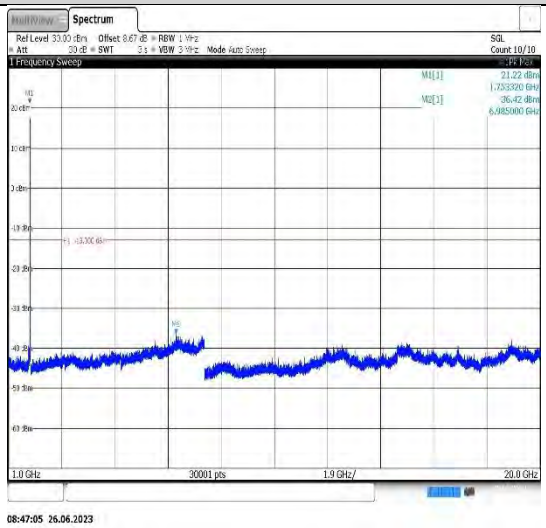
Band4-1513-4-0.15~30MHz



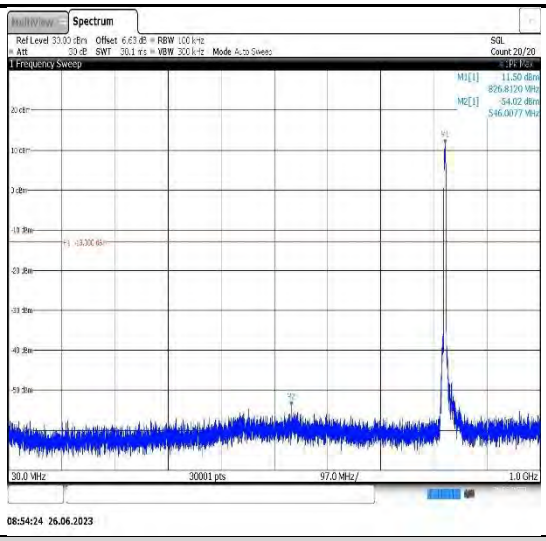
Band4-1513-4-30~1000MHz



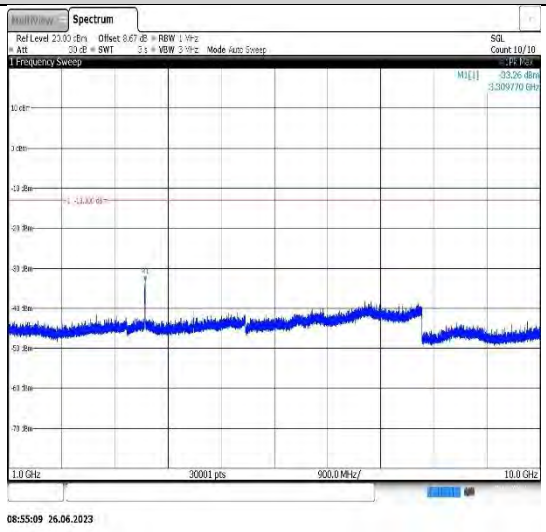
Band4-1513-4-1000~20000MHz



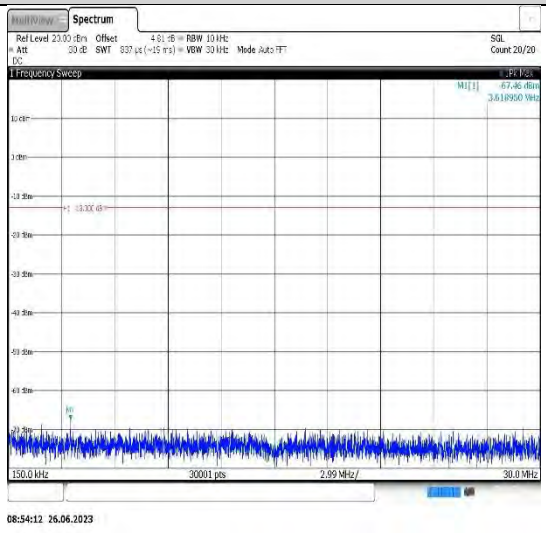
Band5-4132-4-30~1000MHz



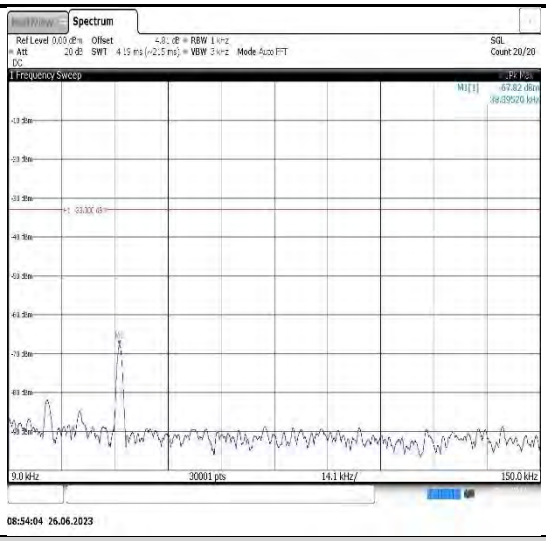
Band5-4132-4-1000~10000MHz



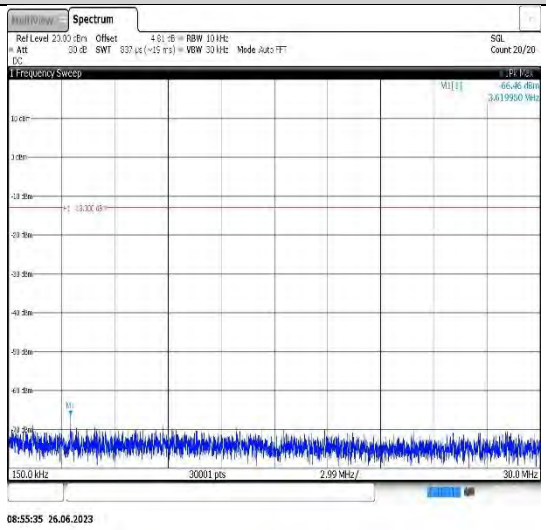
Band5-4132-4-0.15~30MHz



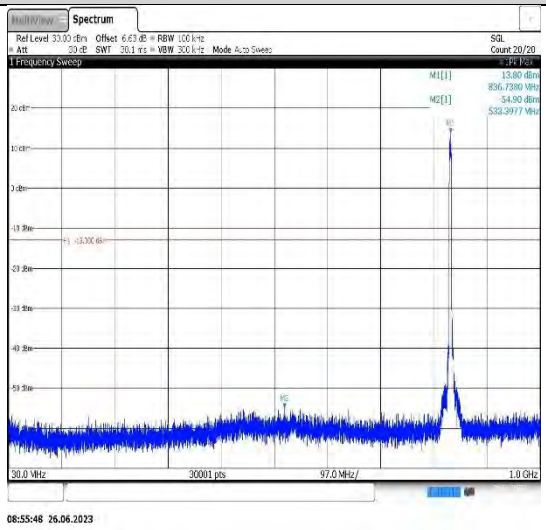
Band5-4132-4-0.009~0.15MHz



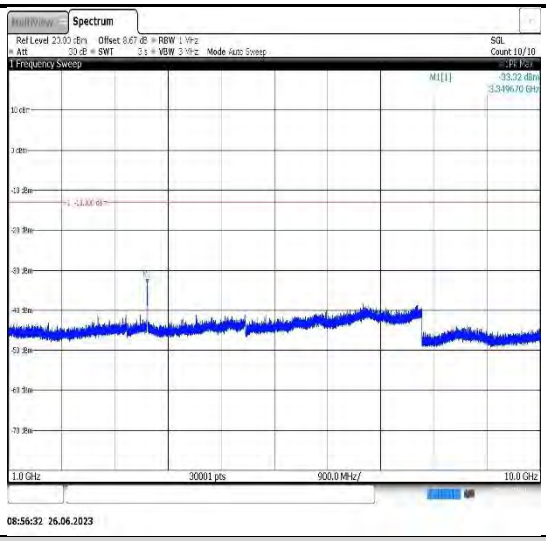
Band5-4182-4-0.15~30MHz



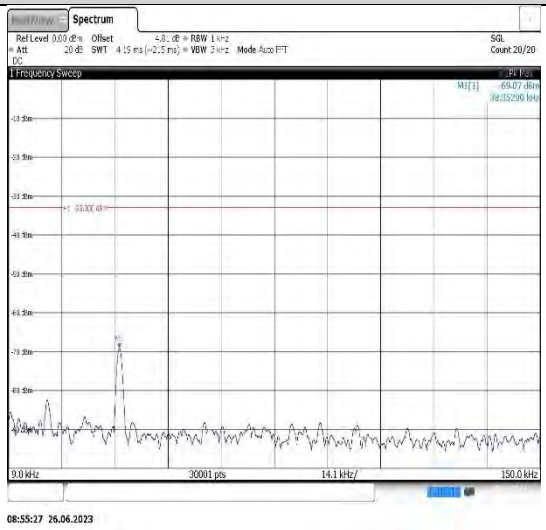
Band5-4182-4-30~1000MHz



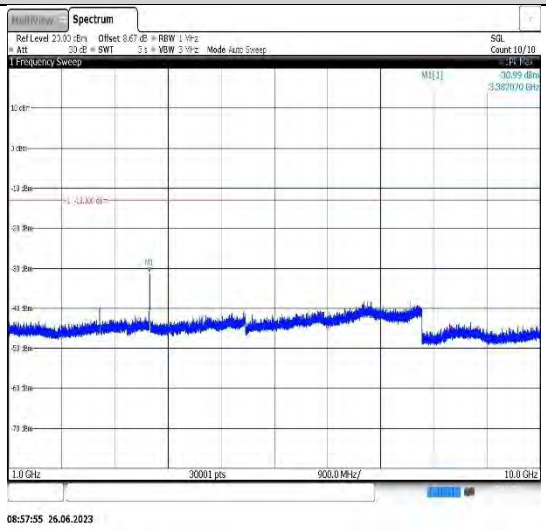
Band5-4182-4-1000~10000MHz



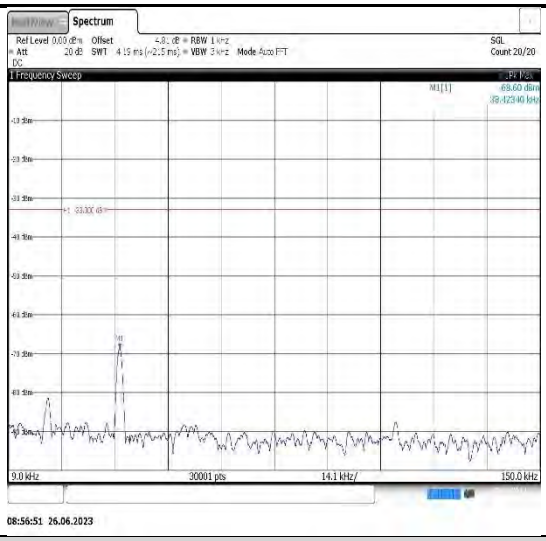
Band5-4182-4-0.009~0.15MHz



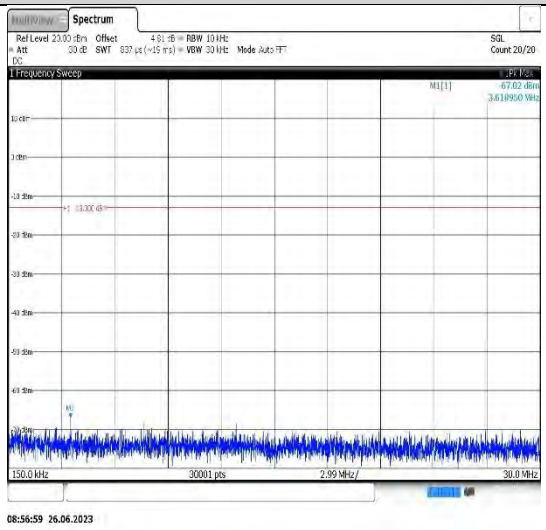
Band5-4233-4-1000~10000MHz



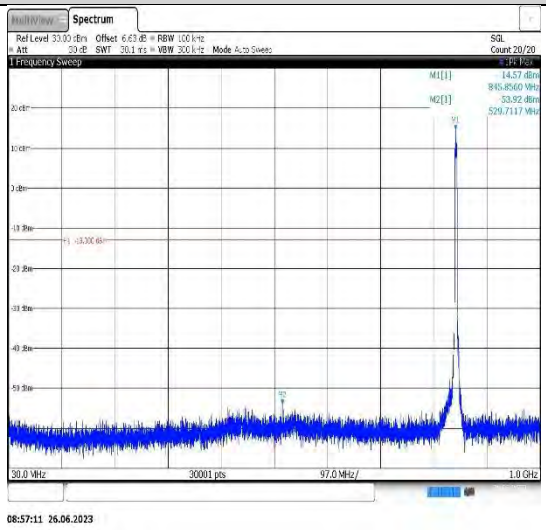
Band5-4233-4-0.009~0.15MHz



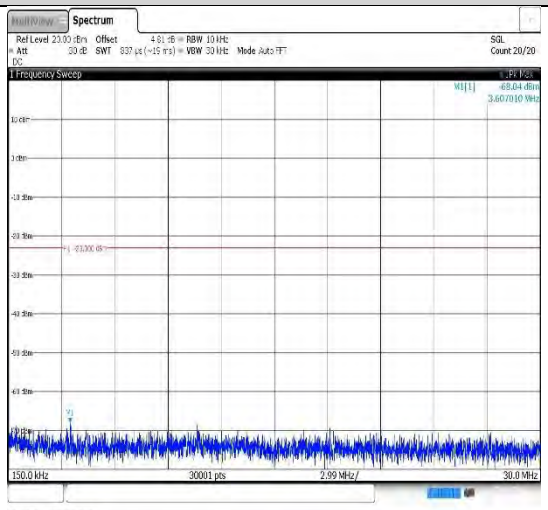
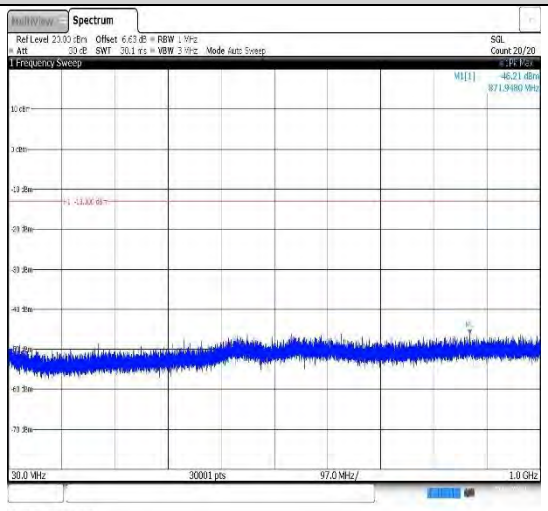
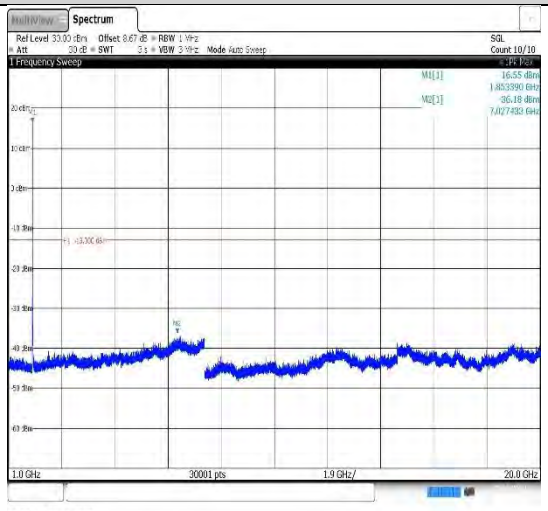
Band5-4233-4-0.15~30MHz

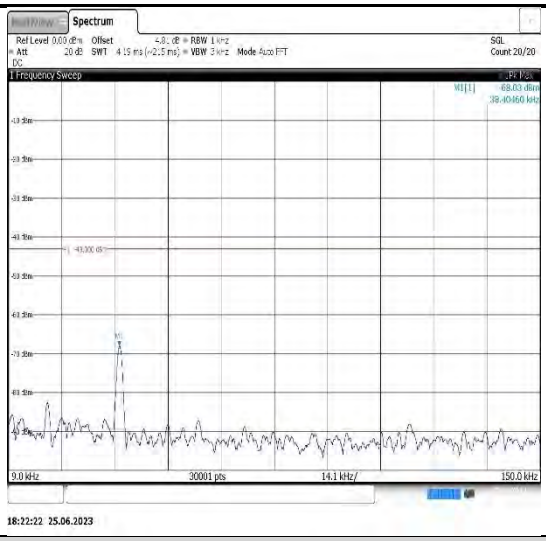


Band5-4233-4-30~1000MHz

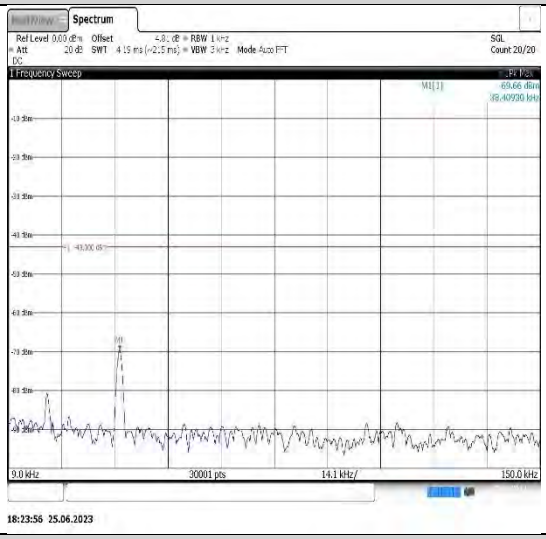


HSUPA:

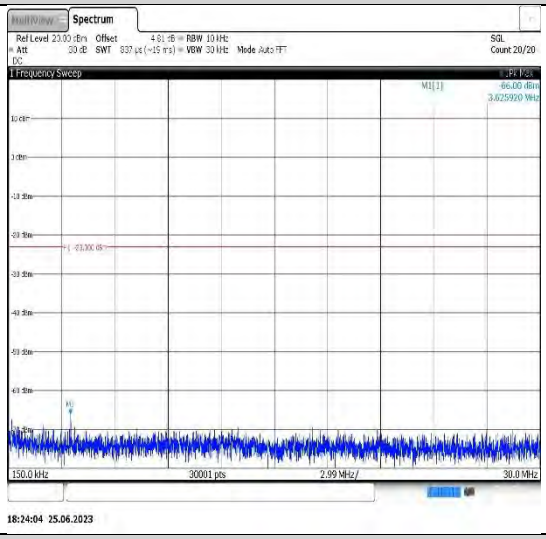
Band2-9262-5-0.15~30MHz

Band2-9262-5-30~1000MHz

Band2-9262-5-1000~20000MHz

Band2-9262-5-0.009~0.15MHz



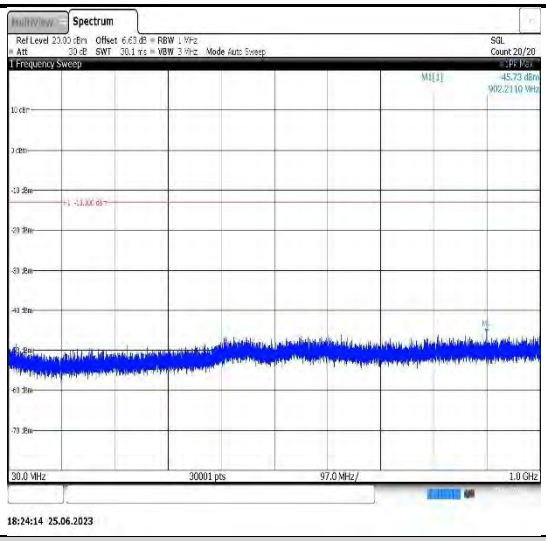
Band2-9400-5-0.009~0.15MHz



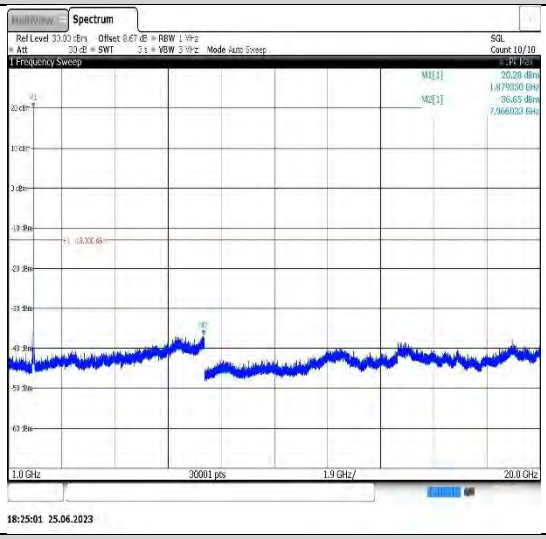
Band2-9400-5-0.15~30MHz



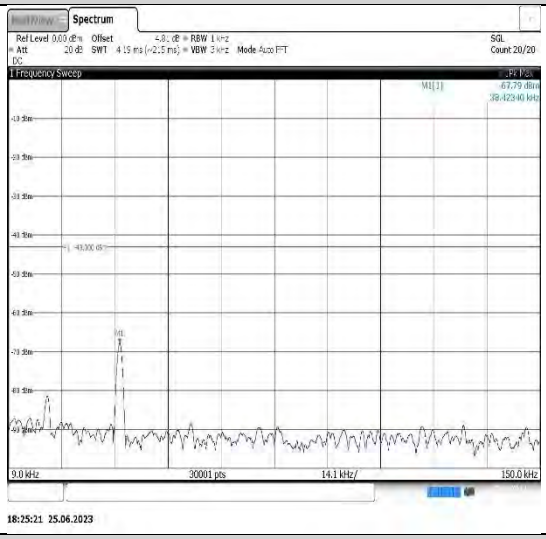
Band2-9400-5-30~1000MHz



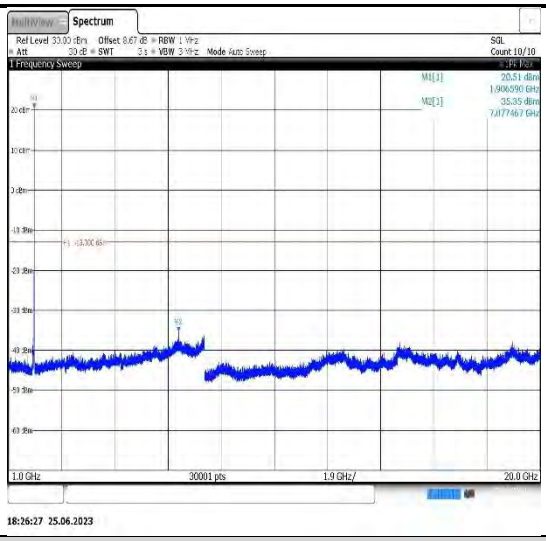
Band2-9400-5-1000~20000MHz



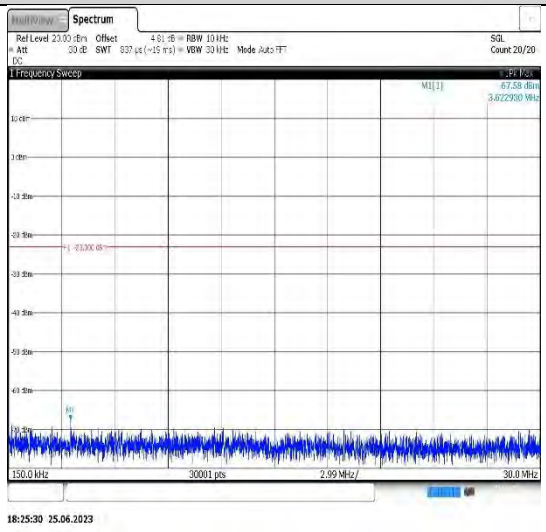
Band2-9538-5-0.009~0.15MHz



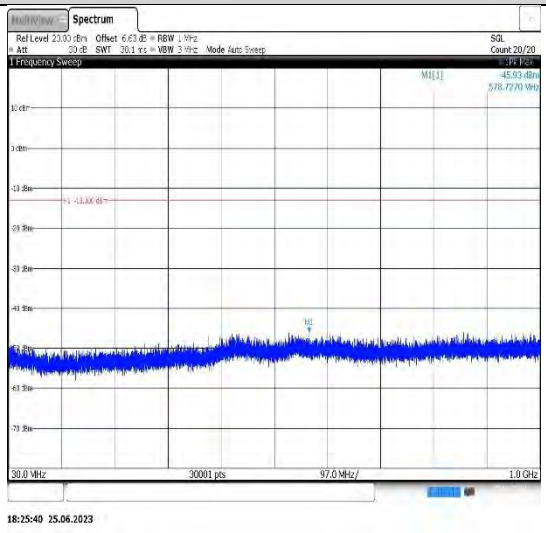
Band2-9538-5-1000~20000MHz



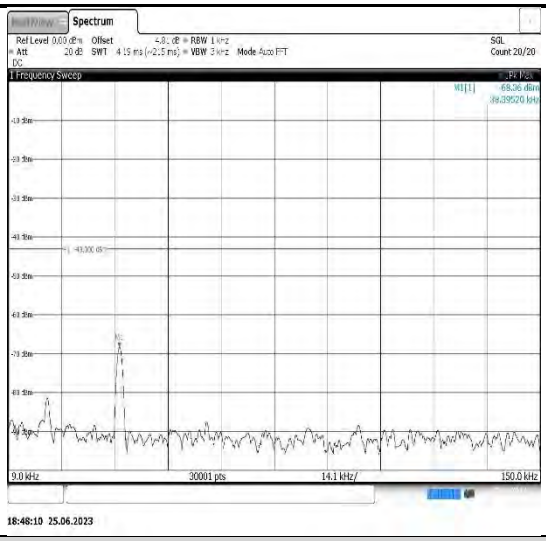
Band2-9538-5-0.15~30MHz



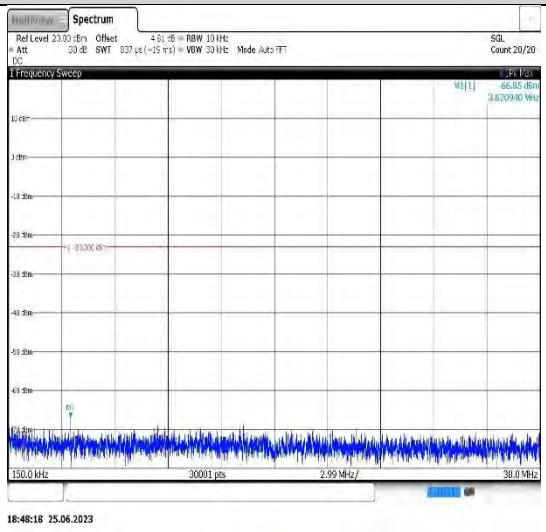
Band2-9538-5-30~1000MHz



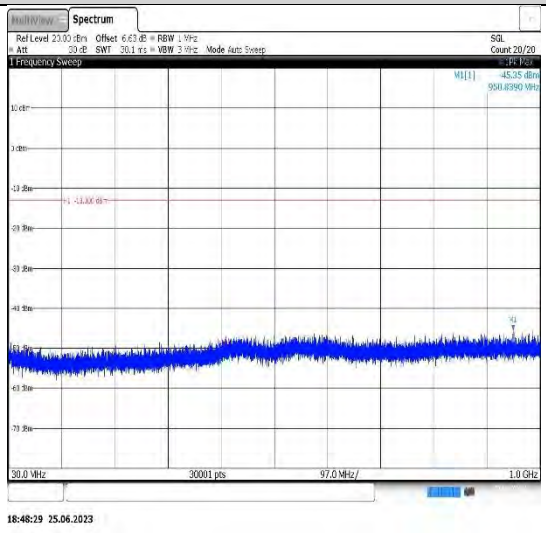
Band4-1312-5-0.009~0.15MHz



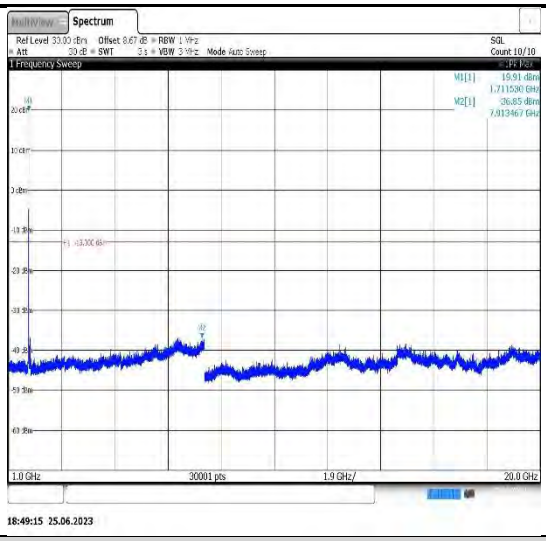
Band4-1312-5-0.15~30MHz



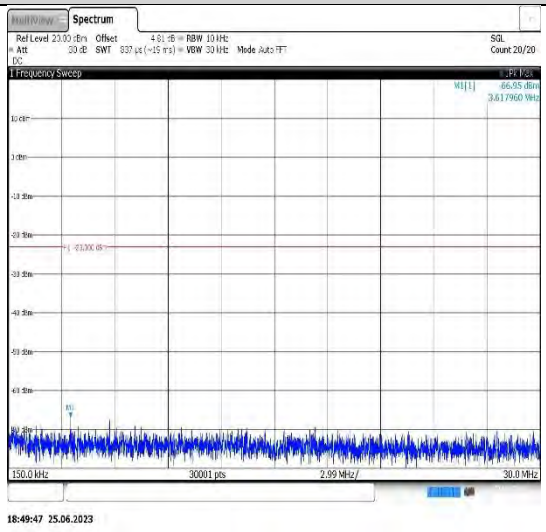
Band4-1312-5-30~1000MHz



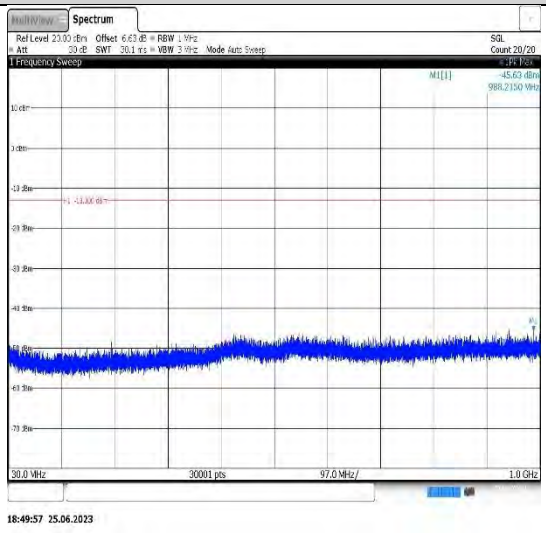
Band4-1312-5-1000~20000MHz



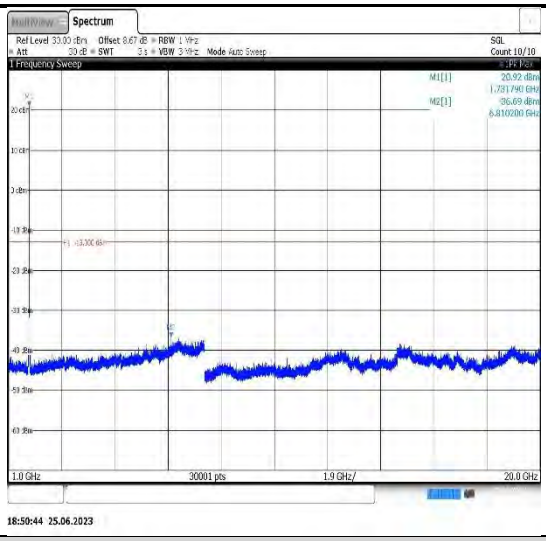
Band4-1413-5-0.15~30MHz



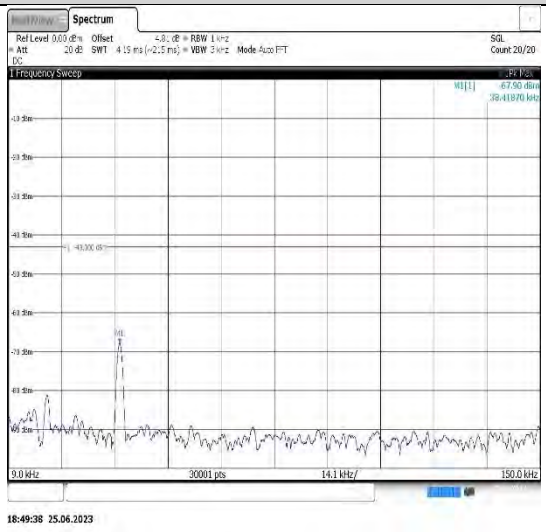
Band4-1413-5-30~1000MHz



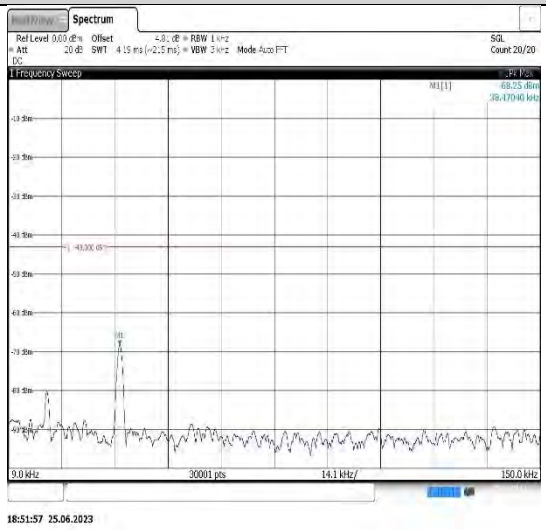
Band4-1413-5-1000~20000MHz



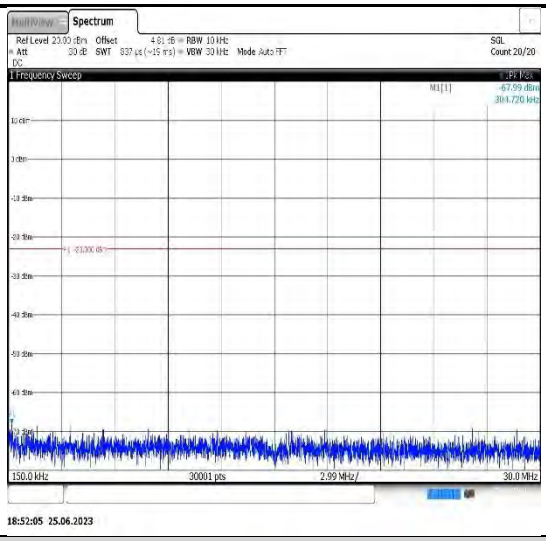
Band4-1413-5-0.009~0.15MHz



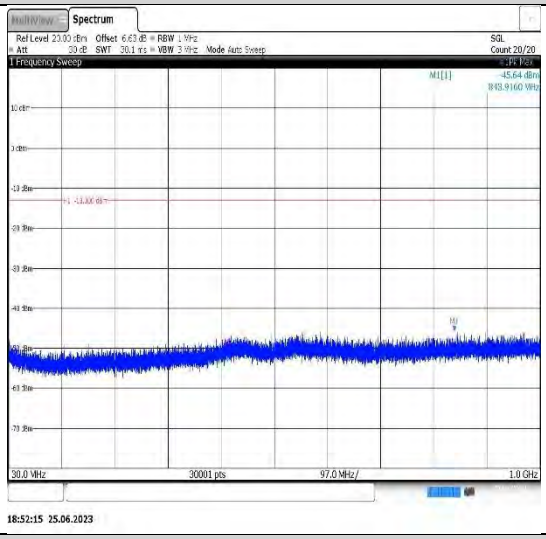
Band4-1513-5-0.009~0.15MHz



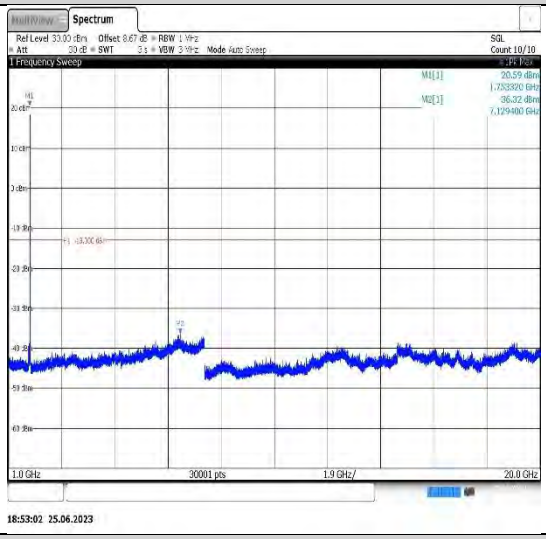
Band4-1513-5-0.15~30MHz



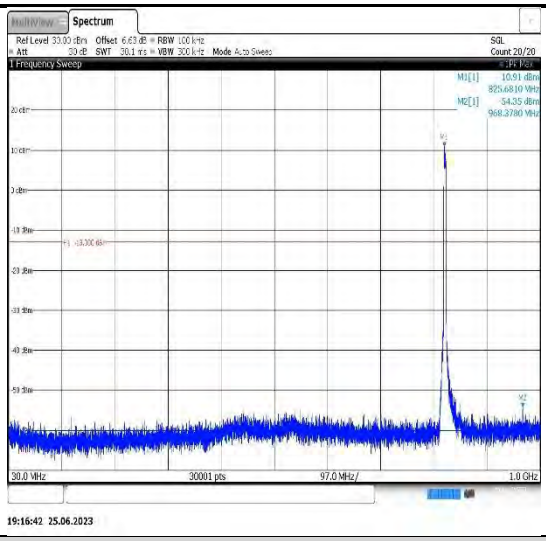
Band4-1513-5-30~1000MHz



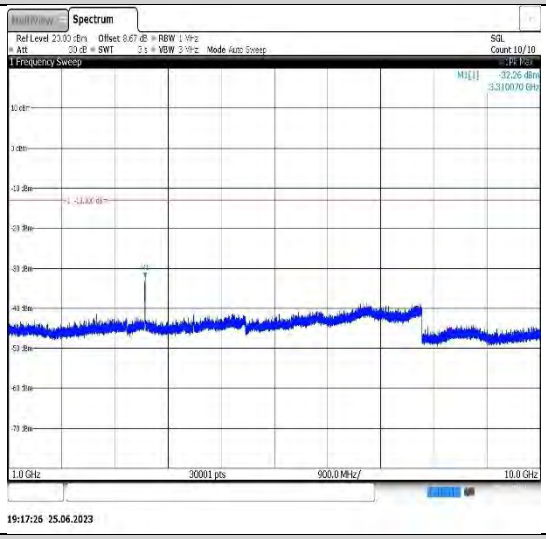
Band4-1513-5-1000~20000MHz



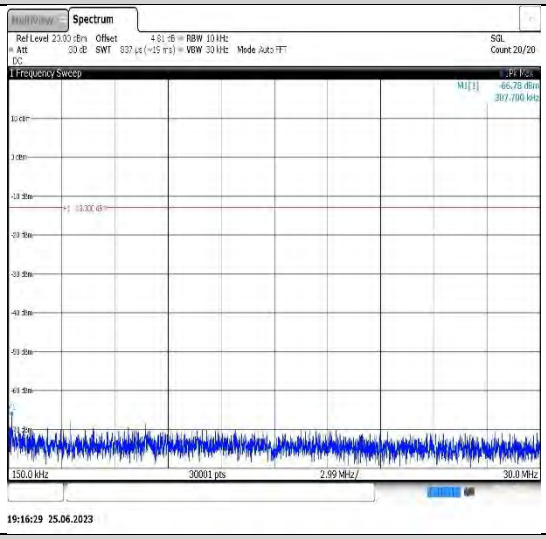
Band5-4132-5-30~1000MHz



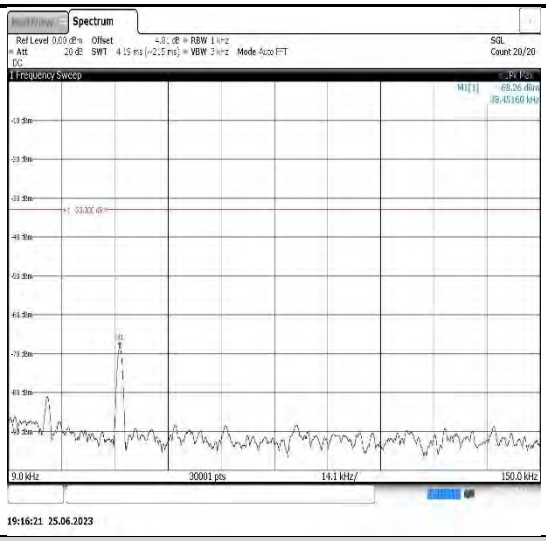
Band5-4132-5-1000~10000MHz



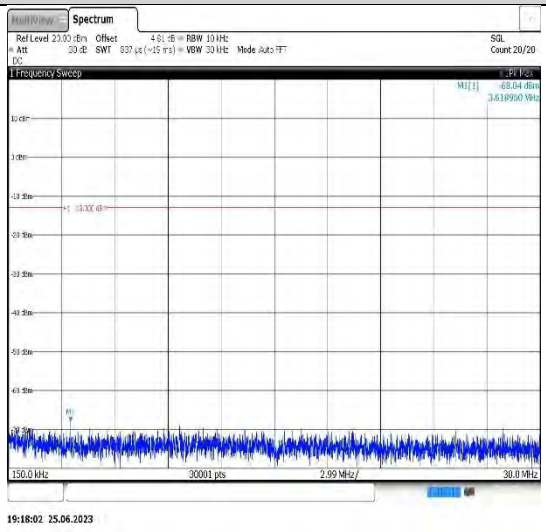
Band5-4132-5-0.15~30MHz



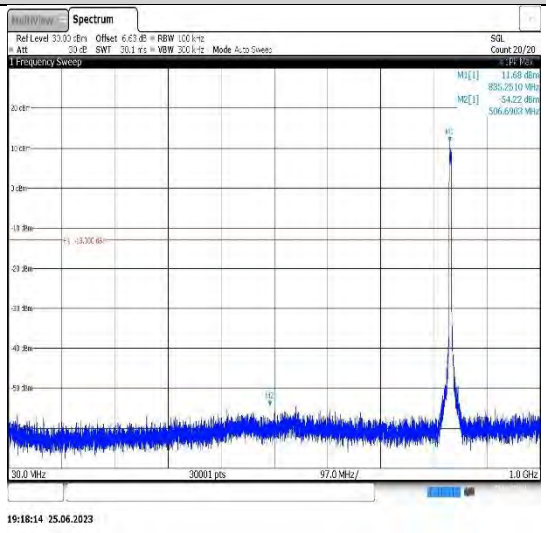
Band5-4132-5-0.009~0.15MHz



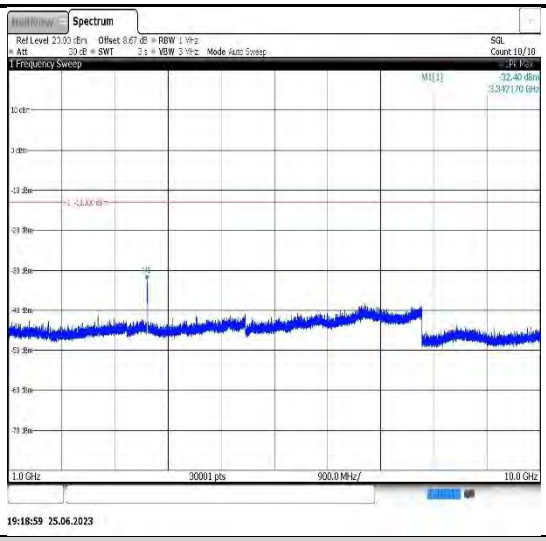
Band5-4182-5-0.15~30MHz



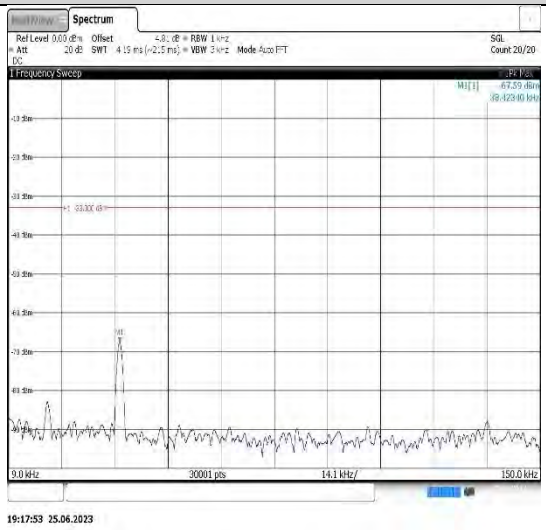
Band5-4182-5-30~1000MHz



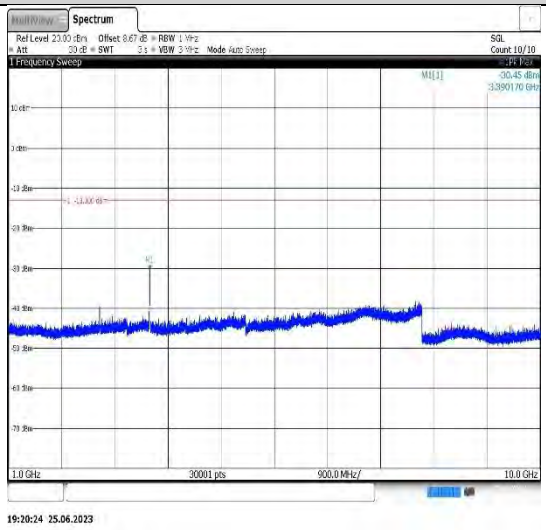
Band5-4182-5-1000~10000MHz



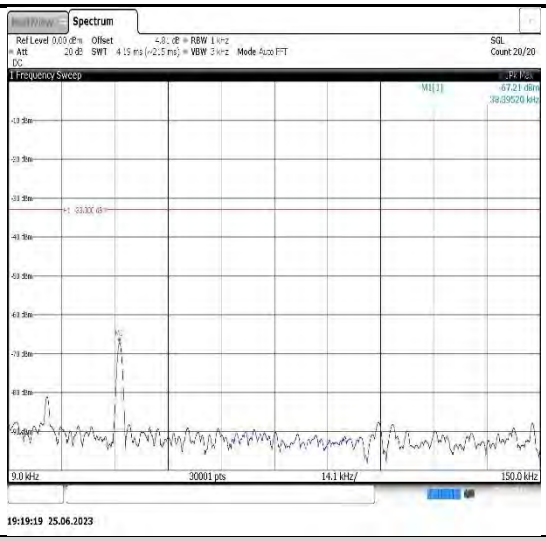
Band5-4182-5-0.009~0.15MHz



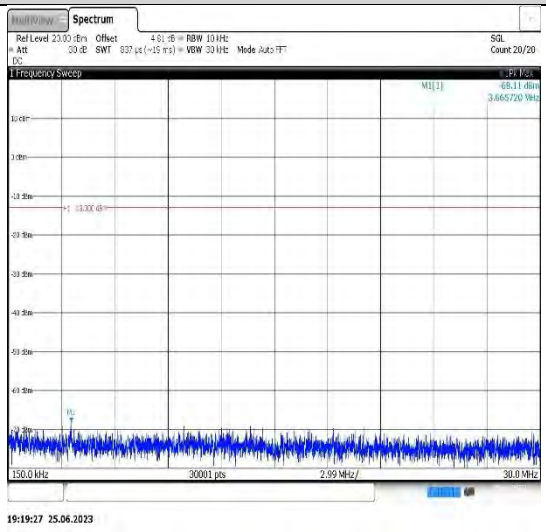
Band5-4233-5-1000~10000MHz



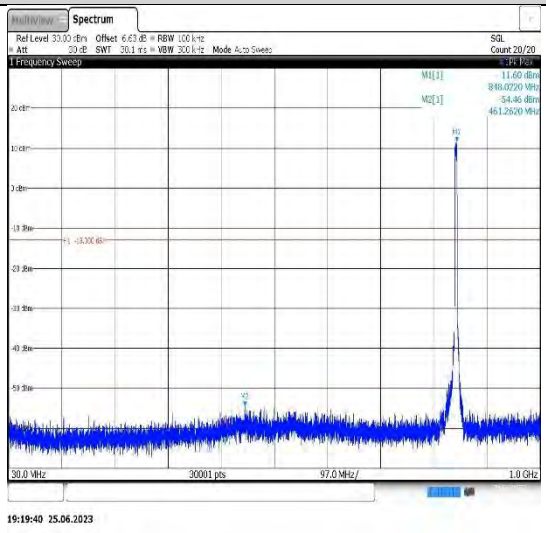
Band5-4233-5-0.009~0.15MHz



Band5-4233-5-0.15~30MHz



Band5-4233-5-30~1000MHz



8.6. AppendixF:Frequency Stability

8.6.1. Test Result

REL99:

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	VL	NT	0.77	0.000410	±2.5	PASS
Band2	9400	VN	NT	1.09	0.000580	±2.5	PASS
Band2	9400	VH	NT	1.65	0.000878	±2.5	PASS
Band4	1413	VL	NT	4.64	0.002678	±2.5	PASS
Band4	1413	VN	NT	1.85	0.001068	±2.5	PASS
Band4	1413	VH	NT	2.50	0.001443	±2.5	PASS
Band5	4182	VL	NT	1.77	0.002116	±2.5	PASS
Band5	4182	VN	NT	-0.26	-0.000311	±2.5	PASS
Band5	4182	VH	NT	0.26	0.000311	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	NV	-30	4.10	0.002181	±2.5	PASS
Band2	9400	NV	-20	-7.17	-0.003814	±2.5	PASS
Band2	9400	NV	-10	6.12	0.003255	±2.5	PASS
Band2	9400	NV	0	1.63	0.000867	±2.5	PASS
Band2	9400	NV	10	-4.50	-0.002394	±2.5	PASS
Band2	9400	NV	20	-2.99	-0.001590	±2.5	PASS
Band2	9400	NV	30	1.15	0.000612	±2.5	PASS
Band2	9400	NV	40	9.52	0.005064	±2.5	PASS
Band2	9400	NV	50	2.78	0.001479	±2.5	PASS
Band4	1413	NV	-30	6.56	0.003786	±2.5	PASS
Band4	1413	NV	-20	3.20	0.001847	±2.5	PASS
Band4	1413	NV	-10	2.84	0.001639	±2.5	PASS
Band4	1413	NV	0	2.82	0.001628	±2.5	PASS
Band4	1413	NV	10	10.49	0.006054	±2.5	PASS
Band4	1413	NV	20	4.01	0.002314	±2.5	PASS
Band4	1413	NV	30	-7.09	-0.004092	±2.5	PASS
Band4	1413	NV	40	-9.54	-0.005506	±2.5	PASS
Band4	1413	NV	50	-9.53	-0.005500	±2.5	PASS
Band5	4182	NV	-30	0.06	0.000072	±2.5	PASS
Band5	4182	NV	-20	-0.82	-0.000980	±2.5	PASS
Band5	4182	NV	-10	1.09	0.001303	±2.5	PASS
Band5	4182	NV	0	-0.65	-0.000777	±2.5	PASS
Band5	4182	NV	10	1.41	0.001686	±2.5	PASS
Band5	4182	NV	20	1.52	0.001817	±2.5	PASS
Band5	4182	NV	30	0.31	0.000371	±2.5	PASS
Band5	4182	NV	40	-0.39	-0.000466	±2.5	PASS
Band5	4182	NV	50	-2.14	-0.002559	±2.5	PASS

HSDPA:

Voltage								
Band	Channel	Sub Test	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	VL	NT	0.48	0.000255	±2.5	PASS
Band2	9400	1	VN	NT	0.24	0.000128	±2.5	PASS
Band2	9400	1	VH	NT	-0.82	-0.000436	±2.5	PASS
Band2	9400	2	VL	NT	-1.29	-0.000686	±2.5	PASS
Band2	9400	2	VN	NT	8.28	0.004404	±2.5	PASS
Band2	9400	2	VH	NT	-1.80	-0.000957	±2.5	PASS
Band2	9400	3	VL	NT	4.01	0.002133	±2.5	PASS
Band2	9400	3	VN	NT	-4.74	-0.002521	±2.5	PASS
Band2	9400	3	VH	NT	1.12	0.000596	±2.5	PASS
Band2	9400	4	VL	NT	1.11	0.000590	±2.5	PASS
Band2	9400	4	VN	NT	0.11	0.000059	±2.5	PASS
Band2	9400	4	VH	NT	5.09	0.002707	±2.5	PASS
Band4	1413	4	VL	NT	3.57	0.002060	±2.5	PASS
Band4	1413	4	VN	NT	0.94	0.000543	±2.5	PASS
Band4	1413	4	VH	NT	4.03	0.002326	±2.5	PASS
Band5	4182	4	VL	NT	1.28	0.001530	±2.5	PASS
Band5	4182	4	VN	NT	0.97	0.001160	±2.5	PASS
Band5	4182	4	VH	NT	1.05	0.001255	±2.5	PASS

Temperature								
Band	Channel	Sub Test	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	NV	-30	1.74	0.000926	±2.5	PASS
Band2	9400	1	NV	-20	-2.88	-0.001532	±2.5	PASS
Band2	9400	1	NV	-10	2.36	0.001255	±2.5	PASS
Band2	9400	1	NV	0	2.83	0.001505	±2.5	PASS
Band2	9400	1	NV	10	1.95	0.001037	±2.5	PASS
Band2	9400	1	NV	20	-2.04	-0.001085	±2.5	PASS
Band2	9400	1	NV	30	1.42	0.000755	±2.5	PASS
Band2	9400	1	NV	40	3.21	0.001707	±2.5	PASS
Band2	9400	1	NV	50	3.65	0.001941	±2.5	PASS
Band2	9400	2	NV	-30	3.82	0.002032	±2.5	PASS
Band2	9400	2	NV	-20	-4.79	-0.002548	±2.5	PASS
Band2	9400	2	NV	-10	-6.59	-0.003505	±2.5	PASS
Band2	9400	2	NV	0	1.32	0.000702	±2.5	PASS
Band2	9400	2	NV	10	-2.00	-0.001064	±2.5	PASS
Band2	9400	2	NV	20	-0.77	-0.000410	±2.5	PASS
Band2	9400	2	NV	30	0.72	0.000383	±2.5	PASS
Band2	9400	2	NV	40	2.29	0.001218	±2.5	PASS
Band2	9400	2	NV	50	-7.75	-0.004122	±2.5	PASS
Band2	9400	3	NV	-30	-9.87	-0.005250	±2.5	PASS
Band2	9400	3	NV	-20	4.46	0.002372	±2.5	PASS
Band2	9400	3	NV	-10	2.40	0.001277	±2.5	PASS

Band2	9400	3	NV	0	-3.09	-0.001644	±2.5	PASS
Band2	9400	3	NV	10	-5.66	-0.003011	±2.5	PASS
Band2	9400	3	NV	20	3.43	0.001824	±2.5	PASS
Band2	9400	3	NV	30	1.06	0.000564	±2.5	PASS
Band2	9400	3	NV	40	-4.02	-0.002138	±2.5	PASS
Band2	9400	3	NV	50	-3.46	-0.001840	±2.5	PASS
Band2	9400	4	NV	-30	4.28	0.002277	±2.5	PASS
Band2	9400	4	NV	-20	6.90	0.003670	±2.5	PASS
Band2	9400	4	NV	-10	-1.95	-0.001037	±2.5	PASS
Band2	9400	4	NV	0	-5.47	-0.002910	±2.5	PASS
Band2	9400	4	NV	10	-6.88	-0.003660	±2.5	PASS
Band2	9400	4	NV	20	3.58	0.001904	±2.5	PASS
Band2	9400	4	NV	30	6.77	0.003601	±2.5	PASS
Band2	9400	4	NV	40	3.90	0.002074	±2.5	PASS
Band2	9400	4	NV	50	-2.93	-0.001559	±2.5	PASS
Band4	1413	4	NV	-30	5.42	0.003128	±2.5	PASS
Band4	1413	4	NV	-20	6.27	0.003619	±2.5	PASS
Band4	1413	4	NV	-10	9.71	0.005604	±2.5	PASS
Band4	1413	4	NV	0	10.90	0.006291	±2.5	PASS
Band4	1413	4	NV	10	5.29	0.003053	±2.5	PASS
Band4	1413	4	NV	20	6.62	0.003821	±2.5	PASS
Band4	1413	4	NV	30	6.72	0.003879	±2.5	PASS
Band4	1413	4	NV	40	5.31	0.003065	±2.5	PASS
Band4	1413	4	NV	50	3.78	0.002182	±2.5	PASS
Band5	4182	4	NV	-30	-0.08	-0.000096	±2.5	PASS
Band5	4182	4	NV	-20	2.03	0.002427	±2.5	PASS
Band5	4182	4	NV	-10	0.59	0.000705	±2.5	PASS
Band5	4182	4	NV	0	0.48	0.000574	±2.5	PASS
Band5	4182	4	NV	10	1.31	0.001566	±2.5	PASS
Band5	4182	4	NV	20	0.63	0.000753	±2.5	PASS
Band5	4182	4	NV	30	1.52	0.001817	±2.5	PASS
Band5	4182	4	NV	40	1.16	0.001387	±2.5	PASS
Band5	4182	4	NV	50	0.54	0.000646	±2.5	PASS

HSUPA:

Voltage								
Band	Channel	Sub Test	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	VL	NT	-1.19	-0.000633	±2.5	PASS
Band2	9400	1	VN	NT	0.40	0.000213	±2.5	PASS
Band2	9400	1	VH	NT	1.63	0.000867	±2.5	PASS
Band2	9400	2	VL	NT	0.46	0.000245	±2.5	PASS
Band2	9400	2	VN	NT	-2.37	-0.001261	±2.5	PASS
Band2	9400	2	VH	NT	-7.29	-0.003878	±2.5	PASS
Band2	9400	3	VL	NT	-4.99	-0.002654	±2.5	PASS
Band2	9400	3	VN	NT	0.69	0.000367	±2.5	PASS
Band2	9400	3	VH	NT	3.20	0.001702	±2.5	PASS
Band2	9400	4	VL	NT	-2.10	-0.001117	±2.5	PASS
Band2	9400	4	VN	NT	-3.51	-0.001867	±2.5	PASS
Band2	9400	4	VH	NT	-0.18	-0.000096	±2.5	PASS
Band2	9400	5	VL	NT	0.78	0.000415	±2.5	PASS
Band2	9400	5	VN	NT	3.34	0.001777	±2.5	PASS
Band2	9400	5	VH	NT	-3.33	-0.001771	±2.5	PASS
Band4	1413	5	VL	NT	6.23	0.003596	±2.5	PASS
Band4	1413	5	VN	NT	-5.96	-0.003440	±2.5	PASS
Band4	1413	5	VH	NT	7.36	0.004248	±2.5	PASS
Band5	4182	5	VL	NT	1.43	0.001710	±2.5	PASS
Band5	4182	5	VN	NT	-0.72	-0.000861	±2.5	PASS
Band5	4182	5	VH	NT	-1.72	-0.002056	±2.5	PASS

Temperature								
Band	Channel	Sub Test	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	NV	-30	-4.77	-0.002537	±2.5	PASS
Band2	9400	1	NV	-20	-3.19	-0.001697	±2.5	PASS
Band2	9400	1	NV	-10	5.51	0.002931	±2.5	PASS
Band2	9400	1	NV	0	-1.82	-0.000968	±2.5	PASS
Band2	9400	1	NV	10	-3.48	-0.001851	±2.5	PASS
Band2	9400	1	NV	20	8.60	0.004574	±2.5	PASS
Band2	9400	1	NV	30	3.50	0.001862	±2.5	PASS
Band2	9400	1	NV	40	-1.02	-0.000543	±2.5	PASS
Band2	9400	1	NV	50	0.24	0.000128	±2.5	PASS
Band2	9400	2	NV	-30	3.55	0.001888	±2.5	PASS
Band2	9400	2	NV	-20	5.31	0.002824	±2.5	PASS
Band2	9400	2	NV	-10	3.27	0.001739	±2.5	PASS
Band2	9400	2	NV	0	-4.28	-0.002277	±2.5	PASS
Band2	9400	2	NV	10	-5.59	-0.002973	±2.5	PASS
Band2	9400	2	NV	20	-0.76	-0.000404	±2.5	PASS
Band2	9400	2	NV	30	7.68	0.004085	±2.5	PASS
Band2	9400	2	NV	40	6.92	0.003681	±2.5	PASS
Band2	9400	2	NV	50	3.14	0.001670	±2.5	PASS

Band2	9400	3	NV	-30	-3.42	-0.001819	±2.5	PASS
Band2	9400	3	NV	-20	-1.72	-0.000915	±2.5	PASS
Band2	9400	3	NV	-10	-1.45	-0.000771	±2.5	PASS
Band2	9400	3	NV	0	-0.64	-0.000340	±2.5	PASS
Band2	9400	3	NV	10	-0.31	-0.000165	±2.5	PASS
Band2	9400	3	NV	20	-0.82	-0.000436	±2.5	PASS
Band2	9400	3	NV	30	1.25	0.000665	±2.5	PASS
Band2	9400	3	NV	40	2.13	0.001133	±2.5	PASS
Band2	9400	3	NV	50	2.07	0.001101	±2.5	PASS
Band2	9400	4	NV	-30	0.09	0.000048	±2.5	PASS
Band2	9400	4	NV	-20	1.51	0.000803	±2.5	PASS
Band2	9400	4	NV	-10	1.37	0.000729	±2.5	PASS
Band2	9400	4	NV	0	2.83	0.001505	±2.5	PASS
Band2	9400	4	NV	10	3.41	0.001814	±2.5	PASS
Band2	9400	4	NV	20	3.38	0.001798	±2.5	PASS
Band2	9400	4	NV	30	3.36	0.001787	±2.5	PASS
Band2	9400	4	NV	40	3.10	0.001649	±2.5	PASS
Band2	9400	4	NV	50	1.70	0.000904	±2.5	PASS
Band2	9400	5	NV	-30	-4.87	-0.002590	±2.5	PASS
Band2	9400	5	NV	-20	-6.57	-0.003495	±2.5	PASS
Band2	9400	5	NV	-10	-7.82	-0.004160	±2.5	PASS
Band2	9400	5	NV	0	-6.45	-0.003431	±2.5	PASS
Band2	9400	5	NV	10	-7.47	-0.003973	±2.5	PASS
Band2	9400	5	NV	20	-6.46	-0.003436	±2.5	PASS
Band2	9400	5	NV	30	-7.57	-0.004027	±2.5	PASS
Band2	9400	5	NV	40	-4.86	-0.002585	±2.5	PASS
Band2	9400	5	NV	50	-4.23	-0.002250	±2.5	PASS
Band4	1413	5	NV	-30	6.71	0.003873	±2.5	PASS
Band4	1413	5	NV	-20	4.89	0.002822	±2.5	PASS
Band4	1413	5	NV	-10	6.24	0.003602	±2.5	PASS
Band4	1413	5	NV	0	9.40	0.005425	±2.5	PASS
Band4	1413	5	NV	10	4.58	0.002643	±2.5	PASS
Band4	1413	5	NV	20	-7.60	-0.004386	±2.5	PASS
Band4	1413	5	NV	30	-7.46	-0.004306	±2.5	PASS
Band4	1413	5	NV	40	-4.43	-0.002557	±2.5	PASS
Band4	1413	5	NV	50	-3.36	-0.001939	±2.5	PASS
Band5	4182	5	NV	-30	0.95	0.001136	±2.5	PASS
Band5	4182	5	NV	-20	-0.06	-0.000072	±2.5	PASS
Band5	4182	5	NV	-10	-0.80	-0.000956	±2.5	PASS
Band5	4182	5	NV	0	0.82	0.000980	±2.5	PASS
Band5	4182	5	NV	10	-0.14	-0.000167	±2.5	PASS
Band5	4182	5	NV	20	1.01	0.001208	±2.5	PASS
Band5	4182	5	NV	30	0.17	0.000203	±2.5	PASS
Band5	4182	5	NV	40	0.22	0.000263	±2.5	PASS
Band5	4182	5	NV	50	0.03	0.000036	±2.5	PASS

Note 1: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

9. RADIATED SPURIOUS EMISSIONS

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53, §90,
RSS-132, RSS-133,RSS-139

LIMIT

Part §22.917(a), §24.238(a), §27.53(h)
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.

RSS-132 section 5.5
Mobile and base station equipment shall comply with the limits in (i) and (ii) below.
(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts).
(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS-133 section 6.5.1
Equipment shall comply with the limits in (i) and (ii) below.
(i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p(watts).
(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

RSS-139 section 6.6
(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.
(ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

TEST PROCEDURE

KDB 971168 D01 Section 7

Below 1GHz test procedure as below:

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Calculate power in dBm by the following formula:

ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)

Where:

Pd is the dipole equivalent power, Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg [dBm] – cable loss [dB]. The calculated Pd levels are then compared to the absolute spurious emission limit of -13 dBm which is equivalent to the required minimum attenuation of 43 + 10log10(Power [Watts]).

Above 1GHz test procedure as below:

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Calculate power in dBm by the following formula:

EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi)
EIRP=ERP+2.15dB
Where: Pg is the generator output power into the substitution antenna.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

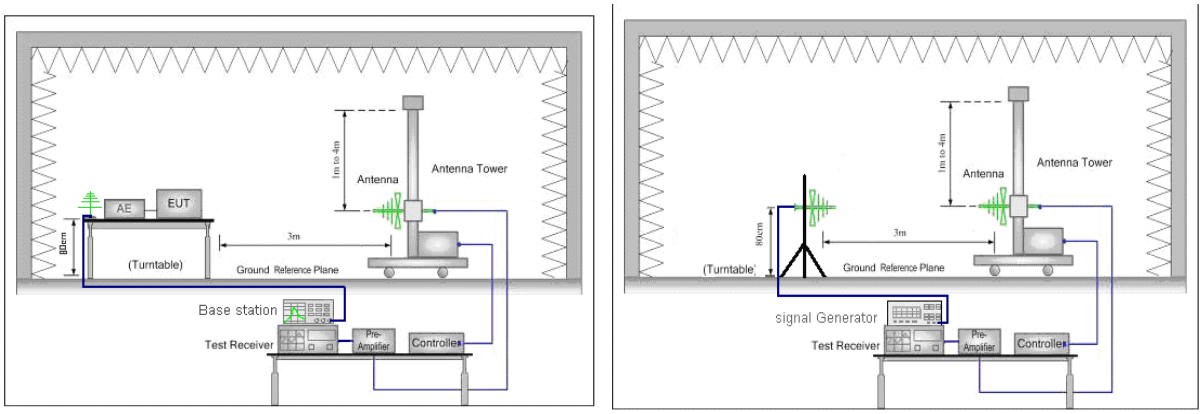
The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
= P(W)- [43 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.

EIRP[dBm] =E[dBμV/m] − 95.25

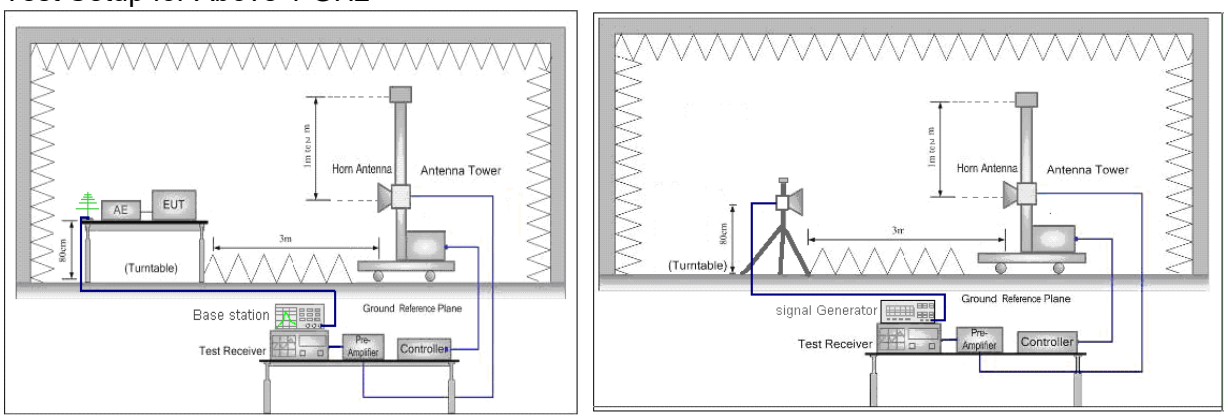
E[dBµV/m]= 95.25- EIRP[dBm]
E[dBµV/m]= 82.25

NOTE 1: Radiated spurious emissions were investigated below 30 MHz, 30 MHz – 1 GHz and above 1 GHz. There were no emissions found on below 30 MHz and 30 MHz – 1 GHz. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 414788.

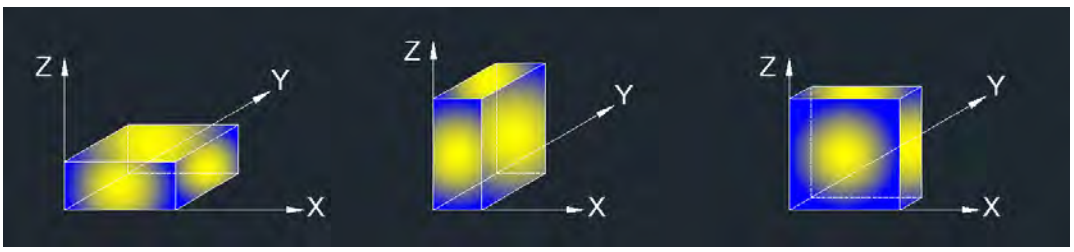
TEST SETUP
Test Setup for Below 1 GHz



Test Setup for Above 1 GHz



X axis, Y axis, Z axis positions:



Note 1: The manufacturer has recommended that the EUT only be used in the desktop (horizontal) orientation; therefore, all radiated testing was performed in desktop orientation.

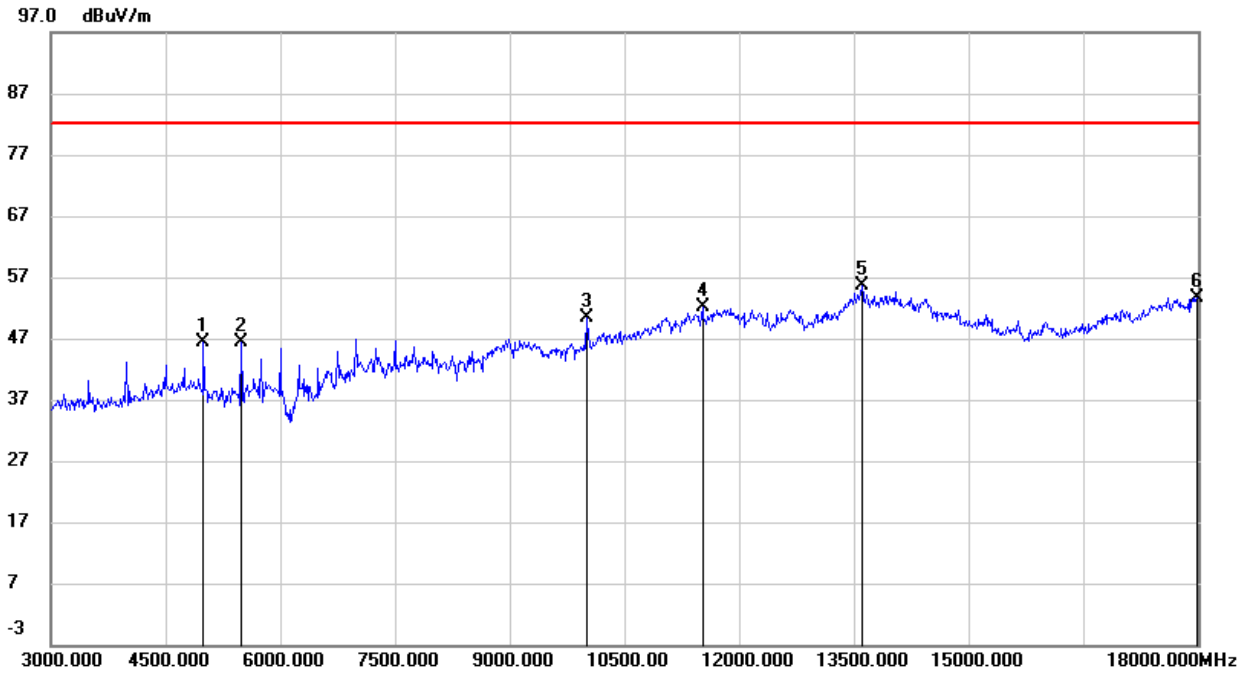
TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	58.3%
Atmosphere Pressure	101kPa	Test Voltage	/

RESULTS

WCDMA Band 2

HSDPA- Low Channel- Horizontal (worst case)



Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	46.05	0.43	46.48	82.25	-35.77	peak
5490.000	45.64	0.84	46.48	82.25	-35.77	peak
10005.000	38.45	12.02	50.47	82.25	-31.78	peak
11520.000	35.38	16.65	52.03	82.25	-30.22	peak
13605.000	34.47	21.12	55.59	82.25	-26.66	peak
17985.000	28.00	25.60	53.60	82.25	-28.65	peak

HSDPA- Low Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	46.29	0.43	46.72	82.25	-35.53	peak
7500.000	39.87	6.33	46.20	82.25	-36.05	peak
10005.000	38.22	12.02	50.24	82.25	-32.01	peak
11700.000	34.91	17.14	52.05	82.25	-30.20	peak
13965.000	32.60	21.89	54.49	82.25	-27.76	peak
17955.000	28.68	25.42	54.10	82.25	-28.15	peak

HSDPA- Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	45.37	0.43	45.80	82.25	-36.45	peak
5490.000	45.11	0.84	45.95	82.25	-36.30	peak
10005.000	37.77	12.02	49.79	82.25	-32.46	peak
11775.000	35.36	17.35	52.71	82.25	-29.54	peak
13845.000	33.26	21.62	54.88	82.25	-27.37	peak
17985.000	28.51	25.60	54.11	82.25	-28.14	peak

HSDPA- Mid Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	46.52	0.43	46.95	82.25	-35.30	peak
6000.000	46.34	2.25	48.59	82.25	-33.66	peak
10005.000	38.90	12.02	50.92	82.25	-31.33	peak
11730.000	35.71	17.22	52.93	82.25	-29.32	peak
13995.000	32.93	21.95	54.88	82.25	-27.37	peak
17970.000	29.11	25.51	54.62	82.25	-27.63	peak

HSDPA- High Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	45.91	0.43	46.34	82.25	-35.91	peak
5490.000	45.88	0.84	46.72	82.25	-35.53	peak
10005.000	38.11	12.02	50.13	82.25	-32.12	peak
11340.000	36.08	16.01	52.09	82.25	-30.16	peak
13860.000	33.45	21.67	55.12	82.25	-27.13	peak
17625.000	30.70	23.47	54.17	82.25	-28.08	peak

HSDPA- High Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	46.59	0.43	47.02	82.25	-35.23	peak
6000.000	43.53	2.25	45.78	82.25	-36.47	peak
6990.000	40.59	6.63	47.22	82.25	-35.03	peak
10005.000	37.34	12.02	49.36	82.25	-32.89	peak
13995.000	32.60	21.95	54.55	82.25	-27.70	peak
17970.000	28.83	25.51	54.34	82.25	-27.91	peak

WCDMA Band 4

HSDPA- Low Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	46.32	0.43	46.75	82.25	-35.50	peak
5490.000	44.93	0.84	45.77	82.25	-36.48	peak
6990.000	41.22	6.63	47.85	82.25	-34.40	peak
12300.000	34.86	17.74	52.60	82.25	-29.65	peak
14085.000	33.30	21.61	54.91	82.25	-27.34	peak
17970.000	28.47	25.51	53.98	82.25	-28.27	peak

HSDPA- Low Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	47.08	0.43	47.51	82.25	-34.74	peak
6000.000	45.20	2.25	47.45	82.25	-34.80	peak
7500.000	40.18	6.33	46.51	82.25	-35.74	peak
10005.000	39.40	12.02	51.42	82.25	-30.83	peak
14010.000	33.48	21.93	55.41	82.25	-26.84	peak
17985.000	28.89	25.60	54.49	82.25	-27.76	peak

HSDPA- Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	47.82	0.43	48.25	82.25	-34.00	peak
5490.000	46.38	0.84	47.22	82.25	-35.03	peak
10005.000	38.35	12.02	50.37	82.25	-31.88	peak
11805.000	35.18	17.43	52.61	82.25	-29.64	peak
13980.000	33.17	21.92	55.09	82.25	-27.16	peak
17940.000	28.96	25.34	54.30	82.25	-27.95	peak

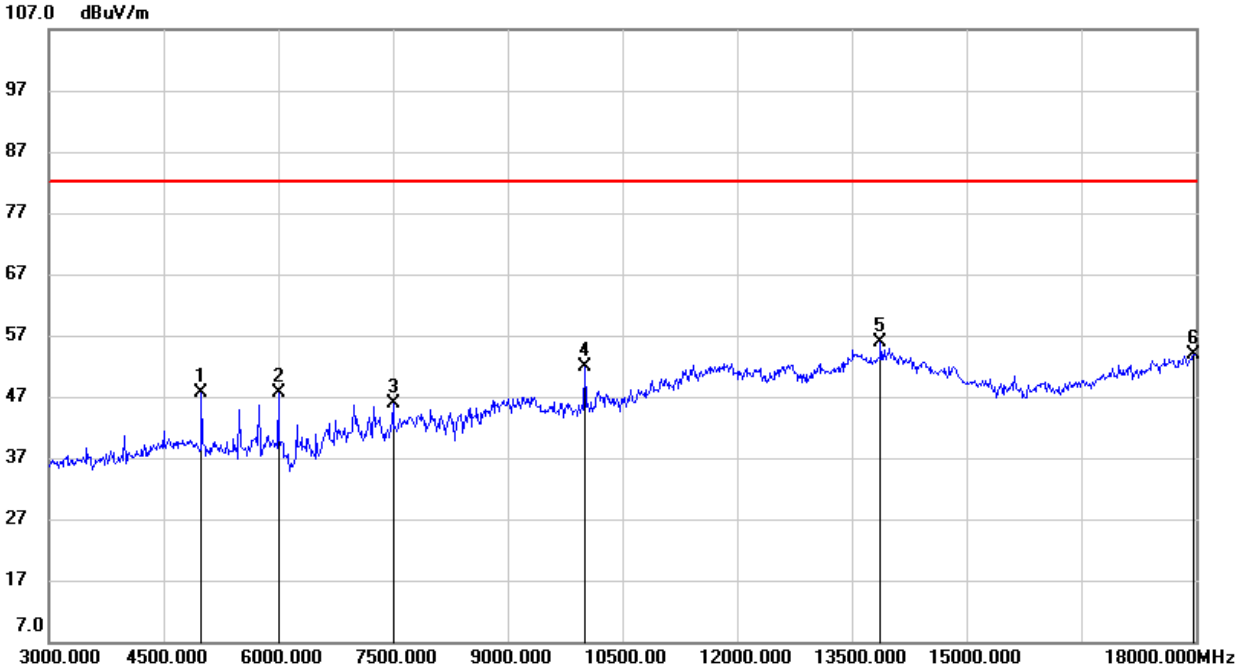
HSDPA- Mid Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	46.43	0.43	46.86	82.25	-35.39	peak
6000.000	45.10	2.25	47.35	82.25	-34.90	peak
10005.000	37.41	12.02	49.43	82.25	-32.82	peak
11520.000	35.76	16.65	52.41	82.25	-29.84	peak
13545.000	33.78	20.99	54.77	82.25	-27.48	peak
18000.000	27.93	25.69	53.62	82.25	-28.63	peak

HSDPA- High Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	46.86	0.43	47.29	82.25	-34.96	peak
5490.000	46.45	0.84	47.29	82.25	-34.96	peak
7500.000	39.68	6.33	46.01	82.25	-36.24	peak
10005.000	39.60	12.02	51.62	82.25	-30.63	peak
13545.000	34.01	20.99	55.00	82.25	-27.25	peak
17955.000	29.25	25.42	54.67	82.25	-27.58	peak

HSDPA- High Channel- Vertical (worst case)



Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4995.000	47.25	0.43	47.68	82.25	-34.57	peak
6000.000	45.47	2.25	47.72	82.25	-34.53	peak
7500.000	39.65	6.33	45.98	82.25	-36.27	peak
10005.000	39.75	12.02	51.77	82.25	-30.48	peak
13875.000	34.10	21.70	55.80	82.25	-26.45	peak
17970.000	28.44	25.51	53.95	82.25	-28.30	peak

WCDMA Band 5

HSDPA- Low Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1648.000	61.40	-12.22	49.18	82.25	-33.07	peak
2476.000	60.31	-8.61	51.70	82.25	-30.55	peak
3295.000	66.35	-6.32	60.03	82.25	-22.22	peak
4123.000	53.29	-3.90	49.39	82.25	-32.86	peak
4996.000	46.73	-0.17	46.56	82.25	-35.69	peak
7003.000	41.00	6.19	47.19	82.25	-35.06	peak

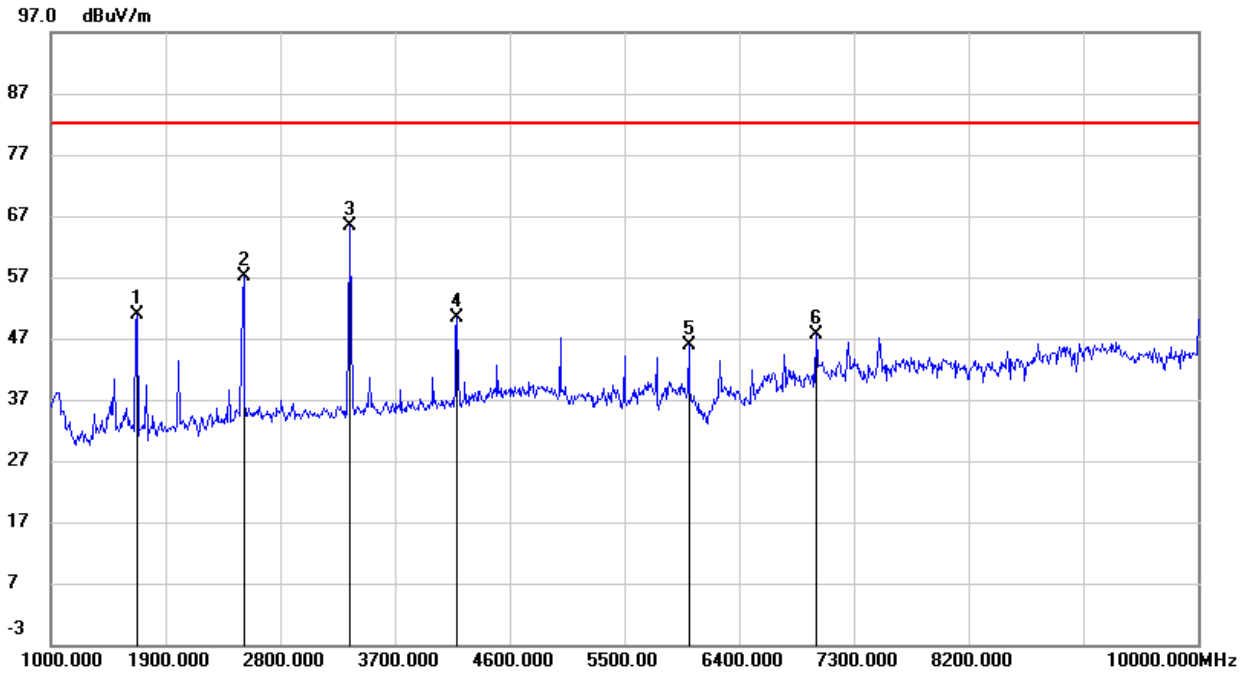
HSDPA- Low Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1648.000	60.06	-12.22	47.84	82.25	-34.41	peak
2476.000	63.49	-8.61	54.88	82.25	-27.37	peak
3295.000	68.62	-6.32	62.30	82.25	-19.95	peak
4123.000	52.75	-3.90	48.85	82.25	-33.40	peak
4996.000	47.37	-0.17	47.20	82.25	-35.05	peak
7498.000	41.22	5.69	46.91	82.25	-35.34	peak

HSDPA- Mid Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1675.000	64.92	-12.13	52.79	82.25	-29.46	peak
2512.000	61.78	-8.45	53.33	82.25	-28.92	peak
3349.000	68.63	-6.19	62.44	82.25	-19.81	peak
4186.000	53.09	-3.61	49.48	82.25	-32.77	peak
5500.000	46.32	0.42	46.74	82.25	-35.51	peak
7498.000	40.65	5.69	46.34	82.25	-35.91	peak

HSDPA- Mid Channel- Vertical (worst case)



Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1675.000	63.06	-12.13	50.93	82.25	-31.32	peak
2512.000	65.54	-8.45	57.09	82.25	-25.16	peak
3349.000	71.57	-6.19	65.38	82.25	-16.87	peak
4186.000	53.98	-3.61	50.37	82.25	-31.88	peak
6004.000	44.09	1.87	45.96	82.25	-36.29	peak
7003.000	41.47	6.19	47.66	82.25	-34.59	peak

HSDPA- High Channel- Horizontal

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1684.000	68.30	-12.10	56.20	82.25	-26.05	peak
2539.000	62.51	-8.37	54.14	82.25	-28.11	peak
3385.000	66.31	-6.11	60.20	82.25	-22.05	peak
4240.000	49.13	-3.35	45.78	82.25	-36.47	peak
5500.000	45.69	0.42	46.11	82.25	-36.14	peak
7003.000	41.96	6.19	48.15	82.25	-34.10	peak

HSDPA- High Channel- Vertical

Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1684.000	65.76	-12.10	53.66	82.25	-28.59	peak
2539.000	64.25	-8.37	55.88	82.25	-26.37	peak
3385.000	69.13	-6.11	63.02	82.25	-19.23	peak
4240.000	50.75	-3.35	47.40	82.25	-34.85	peak
6004.000	45.44	1.87	47.31	82.25	-34.94	peak
7003.000	40.11	6.19	46.30	82.25	-35.95	peak

Remark: All the modulation WCDMA,HSDPA,HSUPA have been tested at low,middle,high channels, only the worst modulation show in the test report.

END OF REPORT