TEST REPORT FOR WCDMA TESTING

Report No.: SRTC2021-9004(F)-21041201(B)

Product Name: Mobile Phone

Product Model: HLTE222E

Applicant: Hisense International Co., Ltd.

Manufacturer: Hisense Communications Co., Ltd.

Specification: FCC Part 24E, Part 22H, Part 2, Part 27 (2019)

FCC ID: 2ADOBHLTE222E

The State Radio_monitoring_center Testing Center (SRTC)

15th Building, No.30 Shixing Street, Shijingshan District,

Beijing, P.R.China

Tel: 86-10-57996183 Fax: 86-10-57996388

CONTENTS

1. GENERAL INFORMATION.....2
1.1 Notes of the test report.....2
1.2 Information about the testing laboratory.....2
1.3 Applicant's details.....2
1.4 Manufacturer's details.....2
1.5 Test Environment.....3
2 DESCRIPTION OF THE DEVICE UNDER TEST.....4
2.1Final Equipment Build Status.....4
2.2 Support Equipment.....5
2.3 Summary table.....5
3 REFERENCE SPECIFICATION.....6
4 KEY TO NOTES AND RESULT CODES.....6
5 RESULT SUMMARY.....7
6 TEST RESULT.....8
6.1 RF Power Output.....8
6.2 Effective Radiated Power and Effective Isotropic Radiated Power.....9
6.3 Occupied Bandwidth.....10
6.4 Emission Bandwidth.....11
6.5 Spurious Emissions at antenna terminal.....12
6.6 Band Edges Compliance.....13
6.7 Frequency Stability.....14
6.8 Radiated Spurious Emissions.....15
6.9 Peak-Average Ratio.....17
7 MEASUREMENT UNCERTAINTIES.....18
8 TEST EQUIPMENTS.....19
APPENDIX A – TEST DATA OF CONDUCTED EMISSION.....错误！未定义书签。
APPENDIX B – TEST DATA OF RADIATED EMISSION.....104

1. GENERAL INFORMATION

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC).The test results relate only to individual items of the samples which have been tested. The certification and accreditation identifiers used in this report shall not be applicable to the tested or calibrated samples thereof. The manufacturer shall not mark the tested samples or items (or a separate part of the item) with the identifiers of certification and accreditation to mislead relevant parties about the tested samples or items.

1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
Address:	15th Building, No.30 Shixing Street, Shijingshan District, P.R.China
City:	Beijing
Country or Region:	P.R.China
Contacted person:	Liu Jia
Tel:	+86 10 57996183
Fax:	+86 10 57996388
Email:	liujiaf@srtc.org.cn

1.3 Applicant's details

Company:	Hisense International Co., Ltd.
Address:	Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China
City:	Qingdao
Country or Region:	China
Contacted person:	Zhang He
Tel:	+86-532-55753718
Fax:	---
Email:	zhanghe1@hisense.com

1.4 Manufacturer's details

Company:	Hisense Communications Co., Ltd.
Address:	218 Qianwangang Road, Qingdao Economic& Technological Development Zone, Qingdao, China
City:	Qingdao
Country or Region:	China
Contacted person:	Zhang He
Tel:	+86-532-55753718
Fax:	---
Email:	zhanghe1@hisense.com

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2021-04-12
Testing Start Date:	2021-04-15
Testing End Date:	2021-04-16

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	22	40
Maximum Extreme	55	---
Minimum Extreme	-20	---

Normal Supply Voltage (V d.c.):	3.80
Maximum Extreme Supply Voltage (V d.c.):	4.35
Minimum Extreme Supply Voltage (V d.c.):	3.55

2 DESCRIPTION OF THE DEVICE UNDER TEST

2.1Final Equipment Build Status

Frequency Range	WCDMA Band II: Tx:1852.4~1907.6MHz Rx:1932.4~1987.6MHz WCDMA Band IV: Tx:1712.4~1752.6MHz Rx:2112.4~2152.6MHz WCDMA Band V: Tx:826.4~846.6MHz Rx:871.4~891.6MHz
Mode	HSDPA/HSUPA/HSPA+/DC-HSDPA
Emission Designator	4M50F9W
Duplex Mode	FDD
Duplex Spacing	WCDMA Band II:80MHz WCDMA Band IV:400MHz WCDMA Band V:45MHz
Antenna Type	Fixed Internal Antenna
Antenna Gain	W2: -0.77dBi/W4: -0.81dBi/W5: -0.95dBi
Power Supply	Battery/Charger
Hardware Version	A563-MB-V1.2
Software Version	Android 11
IMEI	865246050000473

2.2 Support Equipment

The following support equipment was used to exercise the DUT during testing:

Equipment	Battery1
Manufacturer	Shenzhen Aerospace Electronic Co., Ltd.
Model Number	LPN440400
Equipment	Battery2
Manufacturer	DongGuan Powercom Battery Co.，Ltd
Model Number	LPN440400
Equipment	Charger
Manufacturer	Shenzhen Tianyin Electronics Co., Ltd
Model Number	TPA-97050100UU
Equipment	Headset
Manufacturer	Dongguan Keling Electronic Technology Co., Ltd.
Model Number	KS222
Equipment	USB Cable
Manufacturer	Dongguan Keling Electronic Technology Co., Ltd.
Model Number	KS222

There are two supplies for this project. The differences between them are listed as below:

Main Supply

Part Name	Model	Supplier(Brand)
CTP	Y147069C1-R	JIANG XI HUAYU WISDOM TECHNOIOGY CO.,LTD
FLASH	ZD53D16GA062FA	KIGSTON(AF)
Battery	LPN440400	Shenzhen Aerospace Electronic Co.,Ltd

Secondary Supply

Part Name	Model	Supplier(Brand)
CTP	YX60100TS	AGS Optronics (Shenzhen)Co.,Ltd
FLASH	GD82B32MJ0-41M2	ZETTA
Battery	LPN440400	Shenzhen Powercome Electronics CO.,LTD

2.3 Summary table.

FCC Rule Part	Frequency Range (MHz)	ERP/ EIRP (dBm)	ERP/ EIRP (W)	Frequency Tolerance (ppm)	Emission Designator
24E	1852.4-1907.6	23.02	0.200	0.007	4M17F9W
22H	826.4-846.6	20.29	0.107	-0.007	4M18F9W
27	1712.4-1752.6	22.83	0.192	-0.028	4M23F9W

3 REFERENCE SPECIFICATION

Specification	Version	Title
FCC Part2	2019	Frequency allocations and radio treaty matters; general rules and regulations
FCC Part22	2019	Public mobile services
FCC Part24	2019	Personal communications services
FCC Part27	2019	Miscellaneous wireless communications services
ANSI C63.26	2015	American national standard for compliance testing of transmitters used in licensed radio services
KDB 971168 D01	April 9, 2018	Measurement guidance for certification of licensed digital transmitters
TIA-603-E-2016	March 2016	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards

4 KEY TO NOTES AND RESULT CODES

The following are the definition of the test result.

Code	Meaning
PASS	Test result shows that the requirements of the relevant specification have been met.
FAIL	Test result shows that the requirements of the relevant specification have not been met.
NT	Normal Temperature
NV	Nominal voltage
HV	High voltage
LV	Low voltage

5 RESULT SUMMARY

No.	Test case	FCC reference	Verdict
1	RF Power Output	2.1046	Pass
2	Effective Radiated Power and Effective Isotropic Radiated Power	22.913(a),24.232(c),27.50(d)(4)	Pass
3	Occupied Bandwidth	2.1049	Pass
4	Emission Bandwidth	2.1049	Pass
5	Spurious Emissions at antenna terminal	2.1051,22.917(a),24.238(a),27.53(h)	Pass
6	Band Edges Compliance	2.1051,22.917(a),24.238(b),27.53(h)	Pass
7	Frequency Stability	2.1055,22.355,24.235,27.54	Pass
8	Radiated Spurious Emissions	2.1053,22.917(a),24.238(a),27.53(h)	Pass
9	Peak-Average Ratio	24.232(d),27.50(d) (5)	Pass

This Test Report Is Issued by: Mr. Peng Zhen	Checked by: Mr. Li Bin
Tested by: Mr. Hou Siyu	Issued date: 20210421

6 TEST RESULT

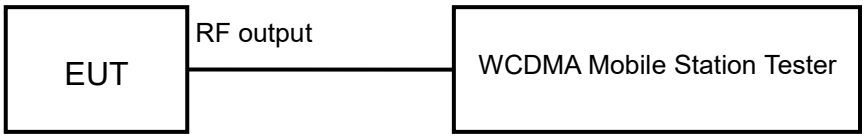
6.1 RF Power Output

Rule Part(s):
2.1046

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test Setup:



Test procedure:
After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. Then the test data can be read at the tester screen. The loss between RF output port of the EUT and the input port of the tester will be taken into consideration.
The measurement will be conducted at three channels (Low, middle and High channels).

Limits: Limits: No specific conduct power requirements in part 2.1046.

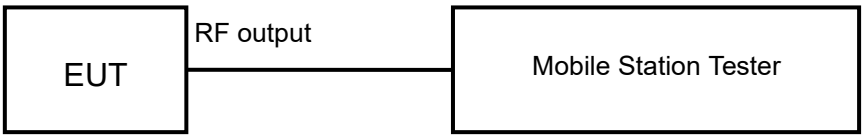
Test result:
The test results are shown in Appendix A.

6.2 Effective Radiated Power and Effective Isotropic Radiated Power

Rule Part(s):
FCC: 22.913(a) (5), 24.232(c), 27.50(d) (4)
Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test setup:



Test procedure:
KDB 971168 D01 v03r01 – Section 5.6
Test Settings
Subclause 5.2.5.5 of ANSI C63.26-2015 is applicable, along with the following provisions. For personal/portable radios utilizing an integral antenna, the factor LC is typically negligible. However, in a fixed station transmit system that utilizes a long cable run between the transmitter and the transmitting antenna, this factor can be significant. The minimum cable loss should be used in this equation.
The relevant equation for determining the ERP or EIRP from the conducted RF output power measured is:
ERP/EIRP = PMeas – LC + GT
Where:
ERP/EIRP = effective or equivalen radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm)
PMeas = measured transmitter output power or PSD, in dBW or dBm
LC = signal attenuation in the connecting cable between the transmitter and antenna in dB
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)
ERP/EIRP LIMIT
This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP – 2.15 (dB).
22.913(a) (5)
The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.
24.232(c)
Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.
27.50(d) (4)
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 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications
Test result:
The test results are shown in Appendix A.

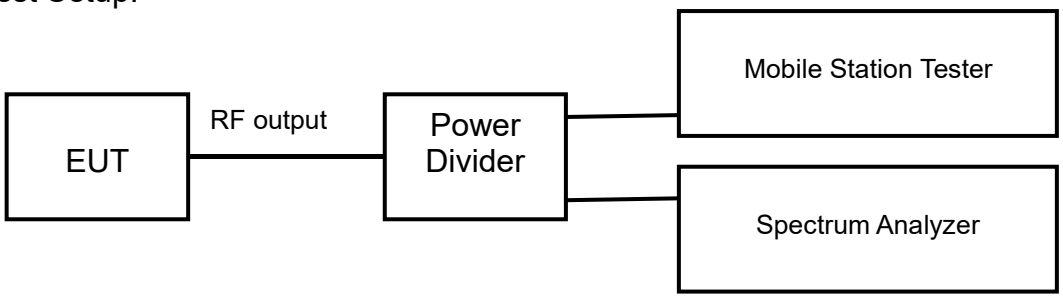
6.3 Occupied Bandwidth

Rule Part(s):
FCC: 2.1049

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test Setup:



Test procedure:
KDB 971168 D01 v03r01 – Section 4.2

Test Settings
1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

Limits: No specific occupied bandwidth requirements in part 2.1049

Test result:
The test results are shown in Appendix A.

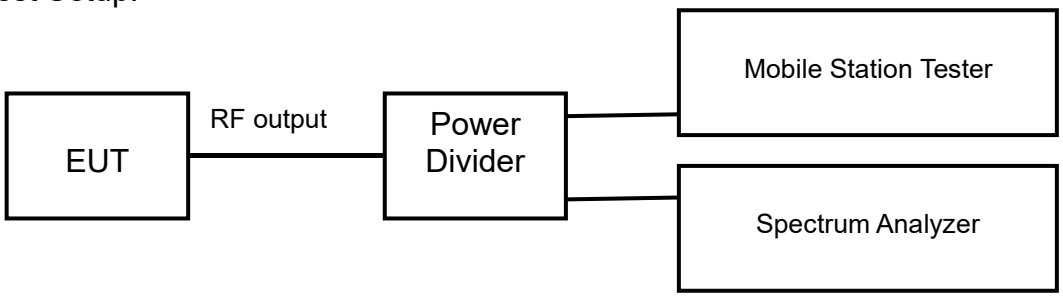
6.4 Emission Bandwidth

Rule Part(s):
FCC: 2.1049

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test Setup:



Test procedure:
KDB 971168 D01 v03r01 – Section 4.2

Test Settings
1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 26dB occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the emission bandwidth observed in Step 7

Limits: No specific occupied bandwidth requirements in part 2.1049

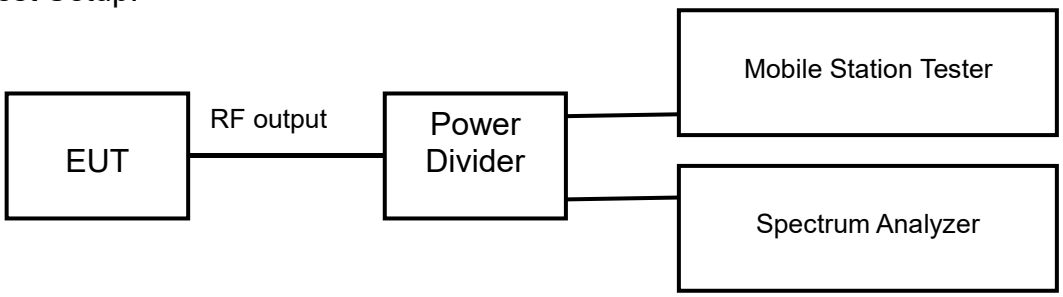
Test result:
The test results are shown in Appendix A.

6.5 Spurious Emissions at antenna terminal

Rule Part(s):
FCC: 2.1051, 22.917(a), 24.238(a), 27.53(h)
Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test Setup:



Test procedure:
KDB 971168 D01 v03r01 – Section 6.0

Test Settings
1. Start frequency was set to 30MHz and stop frequency was set to 10GHz for Cell, 20GHz for PCS
2. RBW=100 kHz (For below 1GHz), 1MHz (For above 1GHz)
3. VBW ≥ 3 x RBW
4. Detector = RMS
5. Trace mode = trace average for continuous emissions, max hold for pulse emissions
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Limits:
The minimum permissible attenuation level of any spurious emission is $43+\log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test result:
The test results are shown in Appendix A.

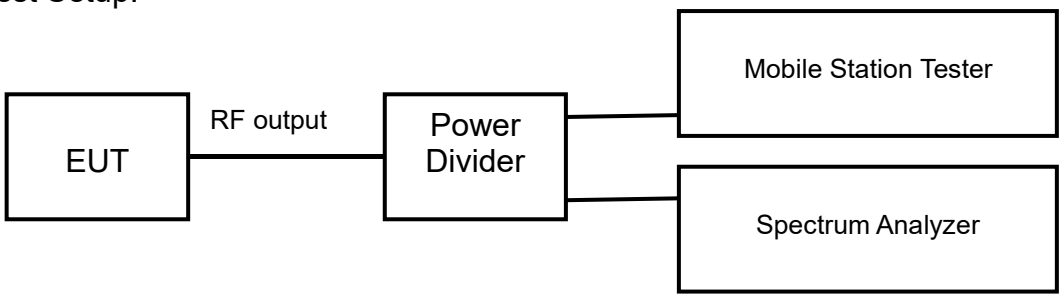
6.6 Band Edges Compliance

Rule Part(s)
FCC: 2.1051, 22.917(a), 24.238(a), 27.53(c)

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test Setup:



Test procedure:
KDB 971168 D01 v03r01 – Section 6.0

Test Settings
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span=2MHz
3. RBW > 1% of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Limit: The minimum permissible attenuation level of any spurious emission is $43+\log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test result:
The test results are shown in Appendix A.

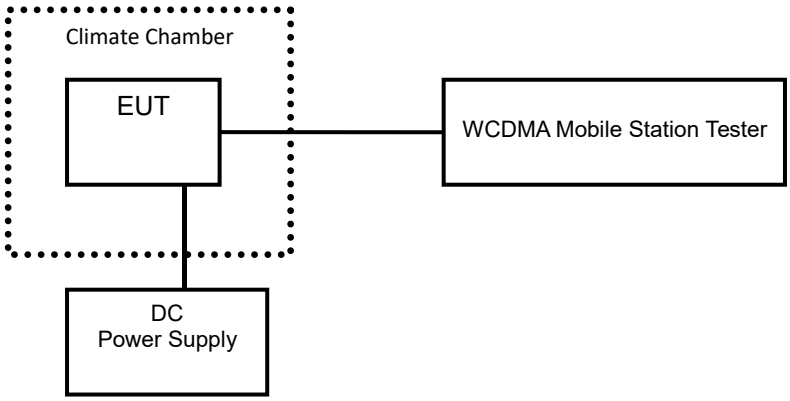
6.7 Frequency Stability

Rule Part(s)
FCC: 2.1055, 22.355, 24.235, 27.54

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test setup:



Test Procedure:
ANSI/TIA-603-E-2016

Test Settings
1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C (The temperature range can be declared by the manufacturer). A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Limits: For Part 22, the frequency stability of the transmitter shall be maintained within±0.00025% (±2.5 ppm) of the center frequency. For Part 24, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test result:
The test results are shown in Appendix A.

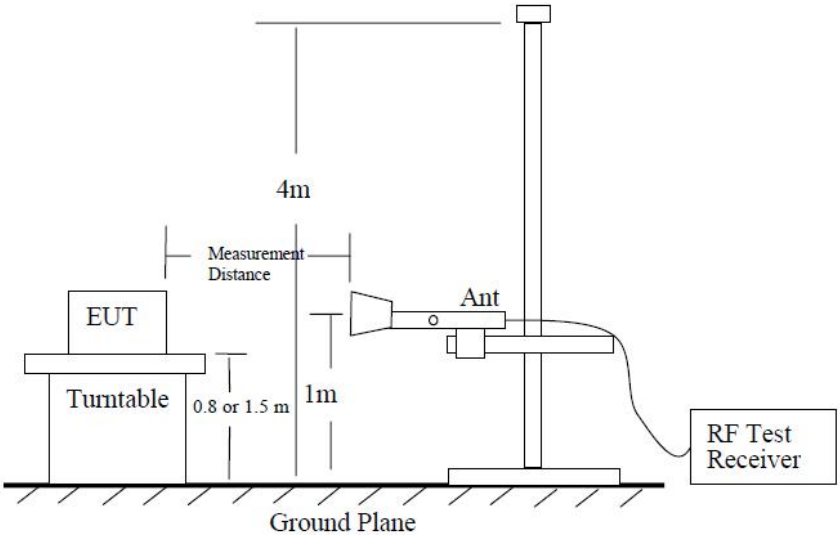
6.8 Radiated Spurious Emissions

Rule Part(s)
FCC: 2.1053, 22.917(a), 24.238(a), 27.53(h)

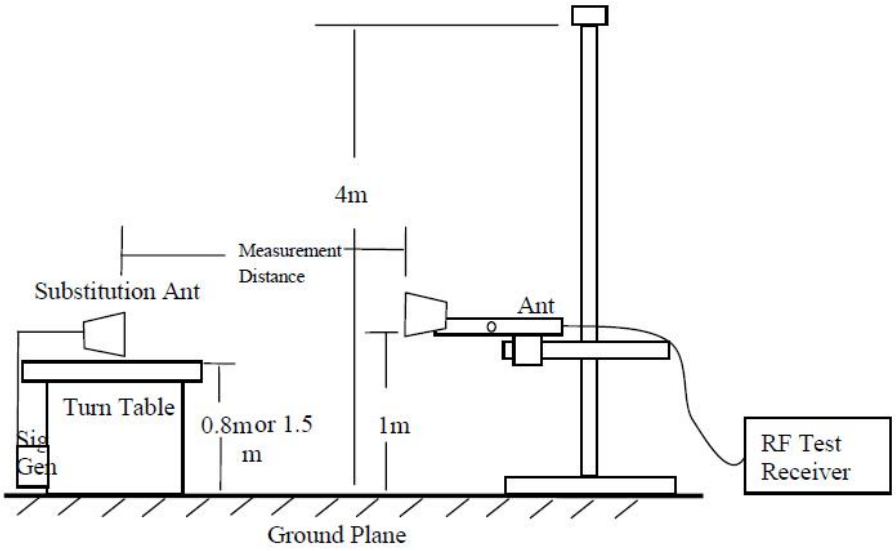
Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test Setup:



Step 1



Step 2

Test procedure:
The measurements procedures in TIA-603-E-2016 are used.
The spectrum was scanned from 30MHz to the 10th harmonic of the highest frequency generated within the equipment.
Step 1:
The measurement is carried out in the chamber. EUT was placed on a 0.8m (f<1GHz)/ 1.5m (f>1GHz) high non-conductive table at a 3 meters test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. The height of receiving antenna from 1m to 4m and varies in certain range to find the maximum power value. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. A peak detector is used and RBW is set to 100 kHz (f<1GHz)/1MHz (f>1GHz). The antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum power value on spectrum analyzer or receiver. The spectrum analyzer scans from 30MHz to 10th harmonic of the carrier. A notch filter is necessary in the band near to the carrier frequency. A high pass filter is needed to avoid the distortion of the testing equipment in the band above the carrier frequency.
Step 2:
A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
A power (Pmea) is applied to the input of the substitution antenna, and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (Pmea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
A “reference path loss” should be calculated after test. The attenuation of “reference path loss” is the cable loss between the Signal Source with the Substitution Antenna (Pca) and the Substitution Antenna Gain (Ga).
Calculation procedure:
The data of cable loss and antenna gain has been calibrated in full testing frequency range before the testing.
The power of the Radiated Spurious Emissions is calculated by adding the cable loss and antenna gain. The basic equation with a sample calculation is as followed:
Power (EIRP) = Pmea+ Pca + Ga
This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP – 2.15 (dB).
Assumed the power of signal source record is -20dBm. A cable loss of -30dB, and an antenna gain of 11dB are added.
P=Pmea+Pca+Ga=(-20dBm)+(-30dB)+(11dB)= -39dBm
Note: We tested both horizontal and vertical polarization, but only the largest numerical polarity of the two polarities was recorded in the final report.

Test result:
The test results are shown in Appendix B.

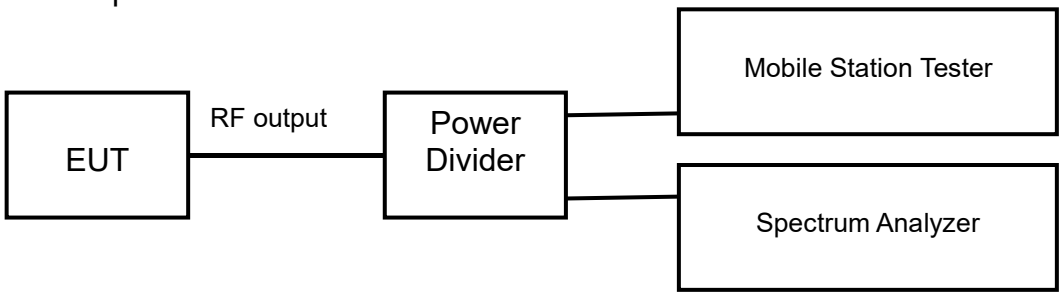
6.9 Peak-Average Ratio

Rule Part(s)
FCC: 24.232(d), 27.50(d) (5)

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	40%	101.9kPa

Test Setup:



Test procedure:
KDB 971168 D01 v03r01 – Section 5.7.1

Test settings:
1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Limits: the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
.
Test result:
The test results are shown in Appendix A

7 MEASUREMENT UNCERTAINTIES

Items	Uncertainty	
RF Power Output	U=0.6 dB	
Occupied Bandwidth	3kHz	
Spurious Emissions	9kHz~2GHz	U=1.2dB
	2G~3.6GHz	U=1.4dB
	3.6G~8GHz	U=2.2dB
	8G~12.75GHz	U=2.7dB
Band Edges Compliance	1.2dB	
Frequency Stability	U=48 Hz	

8 TEST EQUIPMENTS

No.	Name/Model	Manufacturer	S/N	Calibration Date	Calibration Due Date
1	MT8820C Mobile Station Tester	Anritsu	6201300660	2020.08.20	2021.08.19
2	CMW500 Radio Communication Station	R&S	161702	2020.08.20	2021.08.19
2	FSV40 Spectrum Analyzer	R&S	101065	2020.08.20	2021.08.19
3	N9020A Spectrum Analyzer	Agilent	MY48010771	2020.08.20	2021.08.19
4	6007 Power Divider	Weinschel	6007-GJ-1	2020.08.20	2021.08.19
5	DC Power Supply E3645A	Agilent	MY40000741	2020.03.01	2021.02.28
6	Temperature chamber SH241	ESPEC	92013758	2020.08.20	2021.08.19
7	12.65m×8.03m×7.50m Fully-Anechoic Chamber	FRANKONIA	-----	-----	-----
8	23.18m×16.88m×9.60m Semi-Anechoic Chamber	FRANKONIA	---	-----	-----
9	Turn table Diameter:1m	FRANKONIA	-----	-----	-----
10	Turn table Diameter:5m	FRANKONIA	-----	-----	-----
11	Antenna master FAC(MA4.0)	MATURO	-----	-----	-----
12	Antenna master SAC(MA4.0)	MATURO	-----	-----	-----
13	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	-----	-----
14	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100512	2020.08.20	2021.08.19
15	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100513	2020.08.20	2021.08.19
16	HL562 Ultra log antenna	R&S	100016	2020.08.20	2021.08.19
17	3160-09 Receive antenna	SCHWARZ-BECK	002058-002	2020.08.20	2021.08.19
18	ESI 40 EMI test receiver	R&S	100015	2020.08.20	2021.08.19
19	ESCS30 EMI test receiver	R&S	100029	2020.08.20	2021.08.19
20	HL562 Receive antenna	R&S	100167	2020.08.20	2021.08.19
21	ENV216 AMN	R&S	3560.6550.12	2020.08.20	2021.08.19

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

1. RF Power Output

WCDMA band II

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
Release 99	RMC,12.2kbps	1852.4	9262	23.62
		1880	9400	23.66
		1907.6	9538	23.79
HSDPA	Subtest1	1852.4	9262	23.68
		1880	9400	22.19
		1907.6	9538	23.53
	Subtest2	1852.4	9262	23.68
		1880	9400	22.19
		1907.6	9538	23.53
	Subtest3	1852.4	9262	23.68
		1880	9400	22.19
		1907.6	9538	23.53
	Subtest4	1852.4	9262	23.68
		1880	9400	22.19
		1907.6	9538	23.53
HSUPA	Subtest1	1852.4	9262	23.4
		1880	9400	23.38
		1907.6	9538	23.44
	Subtest2	1852.4	9262	23.4
		1880	9400	23.38
		1907.6	9538	23.44
	Subtest3	1852.4	9262	23.4
		1880	9400	23.38
		1907.6	9538	23.44
	Subtest4	1852.4	9262	23.4
		1880	9400	23.38
		1907.6	9538	23.44
	Subtest5	1852.4	9262	23.4
		1880	9400	23.38
		1907.6	9538	23.44
HSPA+	QPSK	1852.4	9262	23.59
		1880	9400	23.38
		1907.6	9538	23.44
	16QAM	1852.4	9262	23.59
		1880	9400	23.38
		1907.6	9538	23.44

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
DC-HSDPA	Subtest1	1852.4	9262	23.64
		1880	9400	23.43
		1907.6	9538	23.51
	Subtest2	1852.4	9262	23.64
		1880	9400	23.43
		1907.6	9538	23.51
	Subtest3	1852.4	9262	23.64
		1880	9400	23.43
		1907.6	9538	23.51
	Subtest4	1852.4	9262	23.64
		1880	9400	23.43
		1907.6	9538	23.51

2. Occupied Bandwidth

WCDMA band II

REL99 Mode:

Carrier frequency (MHz)	Channel No.	Bandwidth of 99% Power (MHz)
1852.4	9262	4.14
1880	9400	4.15
1907.6	9538	4.14

HSDPA Mode:

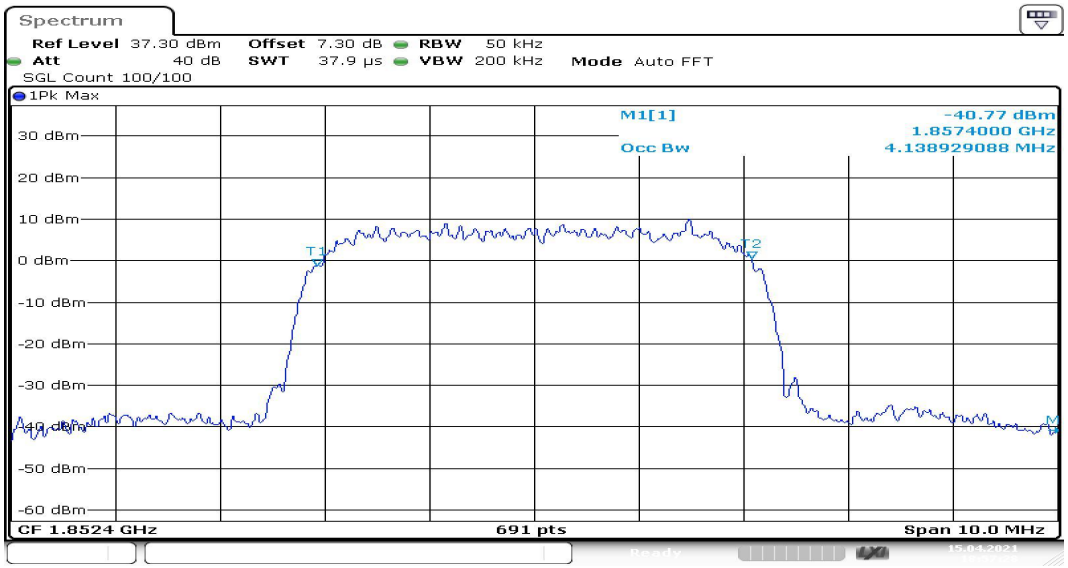
Carrier frequency (MHz)	Channel No.	Bandwidth of 99% Power (MHz)
1852.4	9262	4.14
1880	9400	4.15
1907.6	9538	4.15

HSUPA Mode:

Carrier frequency (MHz)	Channel No.	Bandwidth of 99% Power (MHz)
1852.4	9262	4.15
1880	9400	4.15
1907.6	9538	4.17

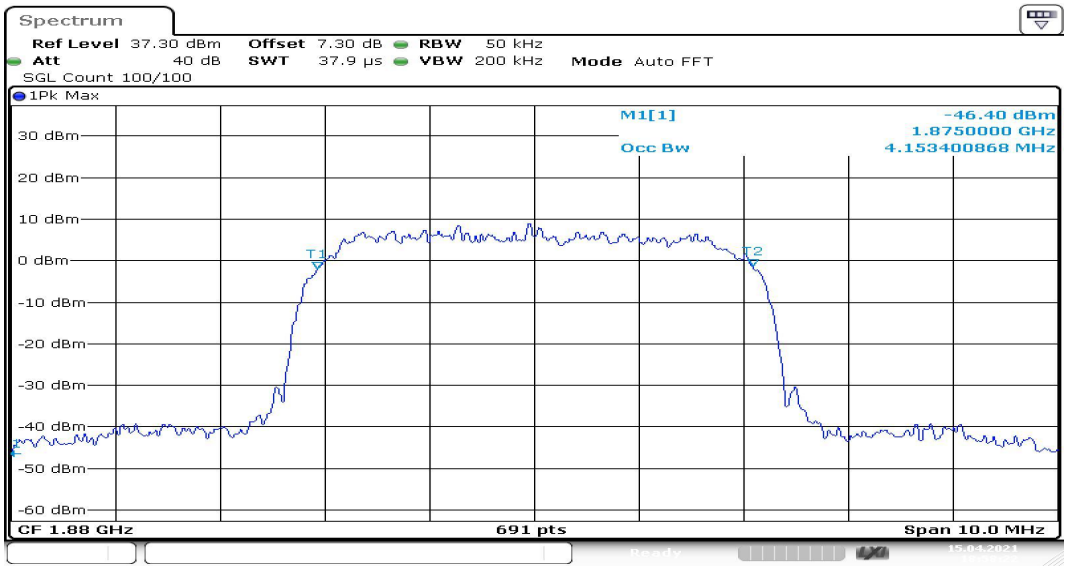
WCDMA band II

REL99 Mode:



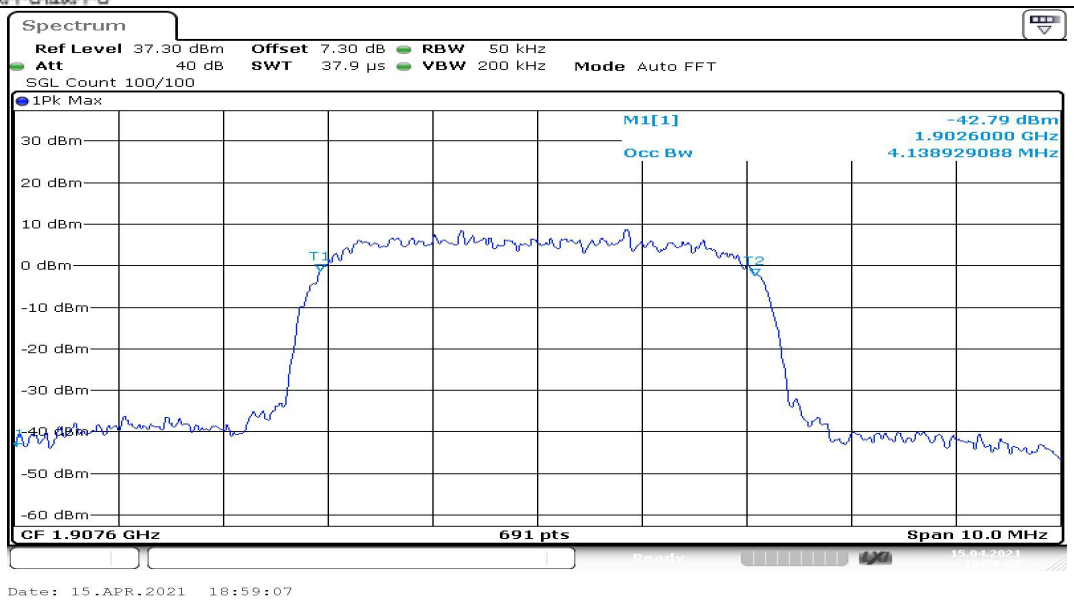
Date: 15.APR.2021 18:57:28

Channel 9262



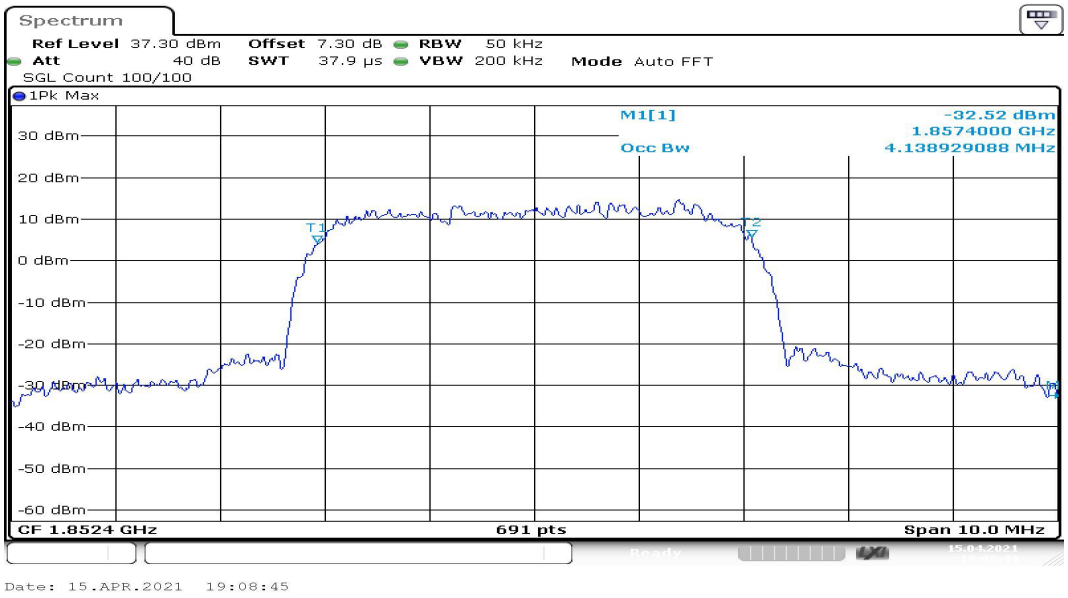
Date: 15.APR.2021 18:58:22

Channel 9400

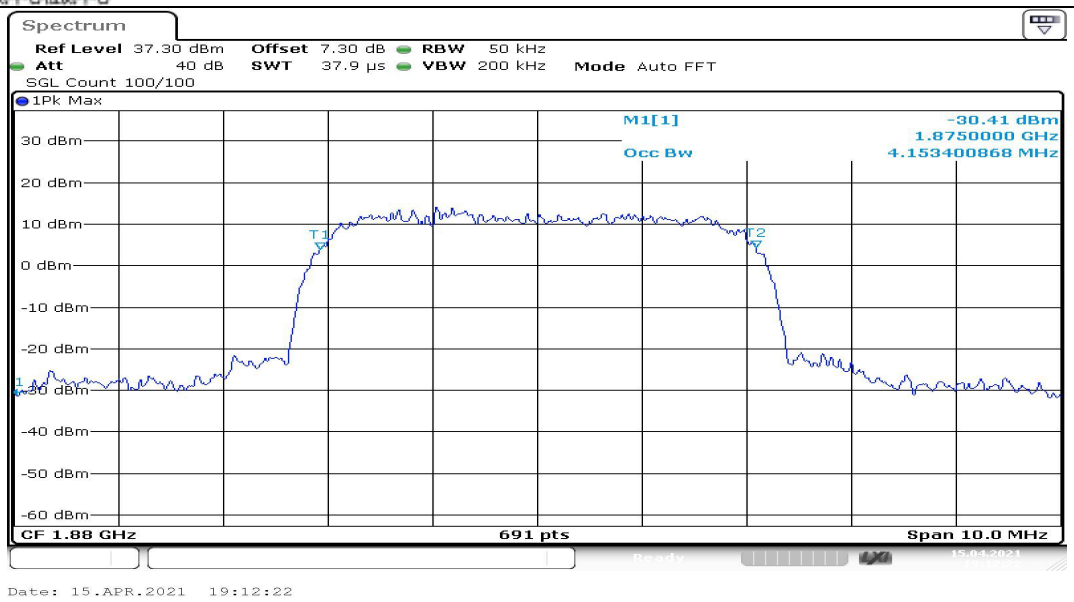


Channel 9538

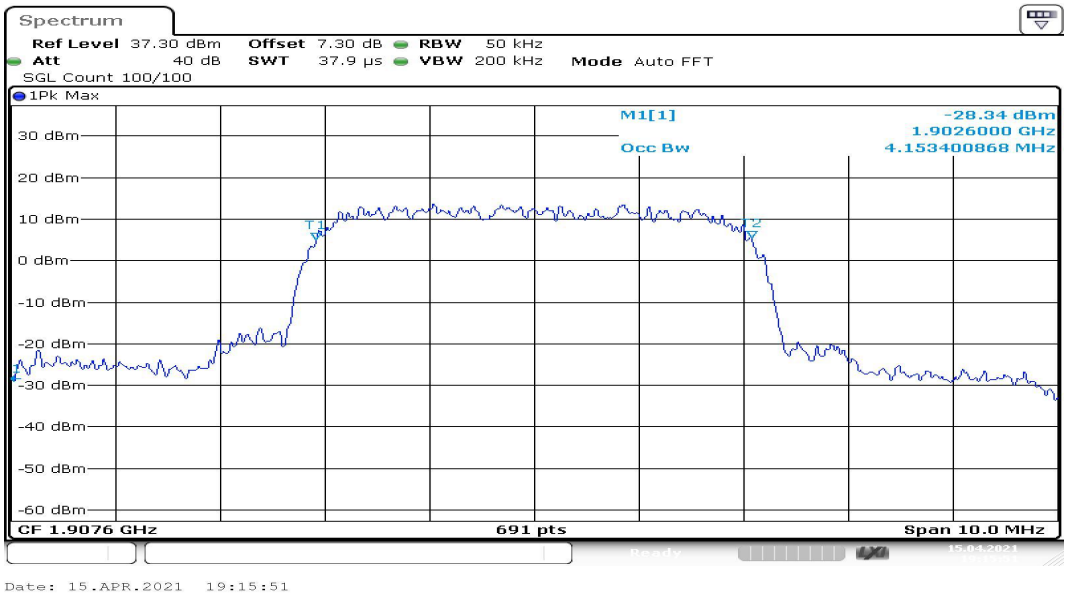
HSDPA Mode:



Channel 9262

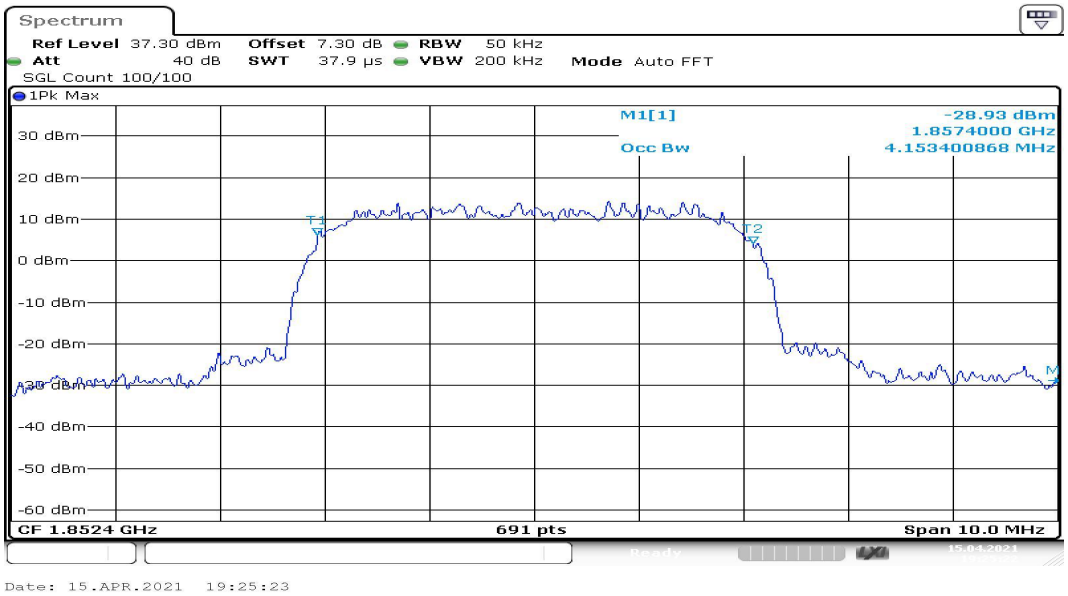


Channel 9400



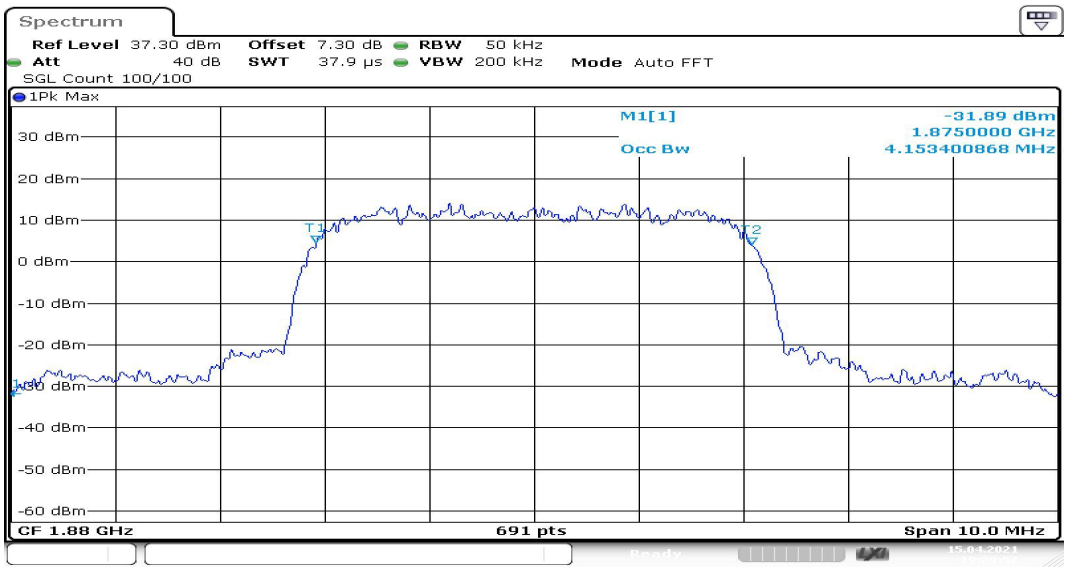
Channel 9538

HSUPA Mode:



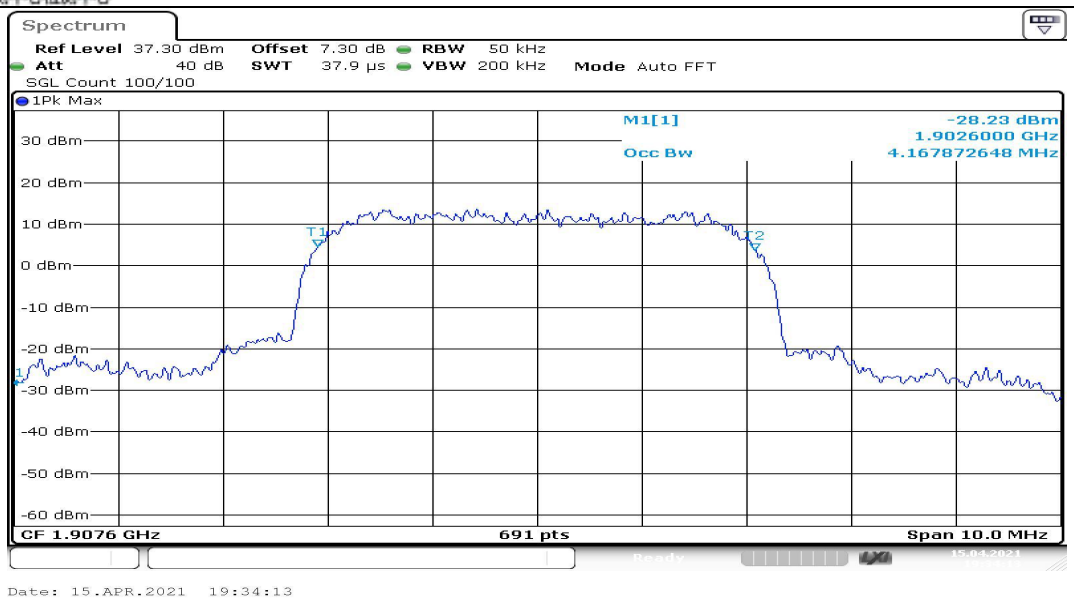
Date: 15.APR.2021 19:25:23

Channel 9262



Date: 15.APR.2021 19:29:53

Channel 9400



Date: 15.APR.2021 19:34:13

Channel 9538

3. Emission Bandwidth

WCDMA band II

REL99 Mode:

Carrier frequency (MHz)	Channel No.	Bandwidth of -26dBc Power (MHz)
1852.4	9262	4.59
1880	9400	4.63
1907.6	9538	4.63

HSDPA Mode:

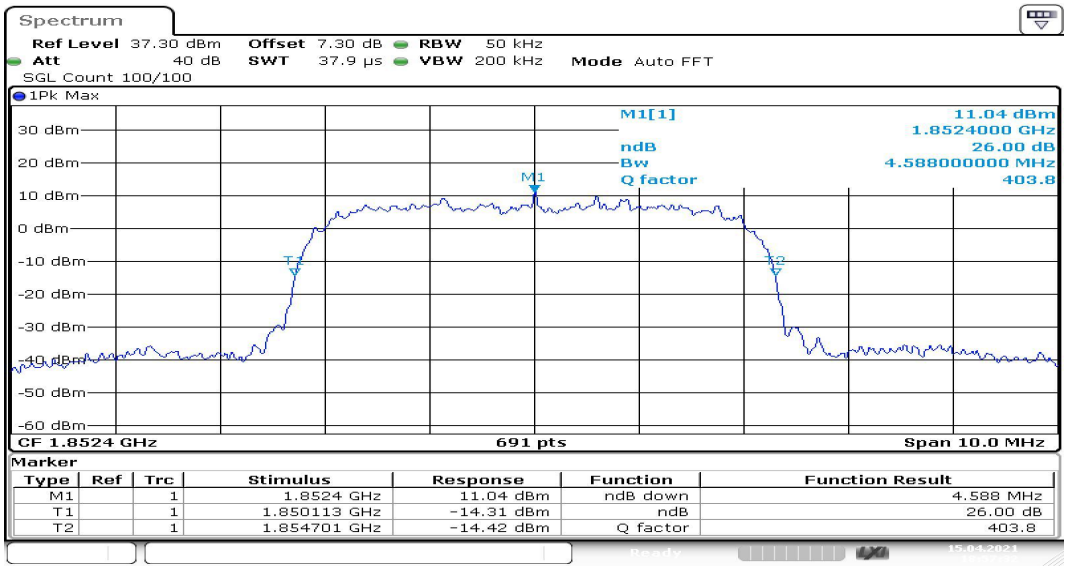
Carrier frequency (MHz)	Channel No.	Bandwidth of -26dBc Power (MHz)
1852.4	9262	4.65
1880	9400	4.63
1907.6	9538	4.66

HSUPA Mode:

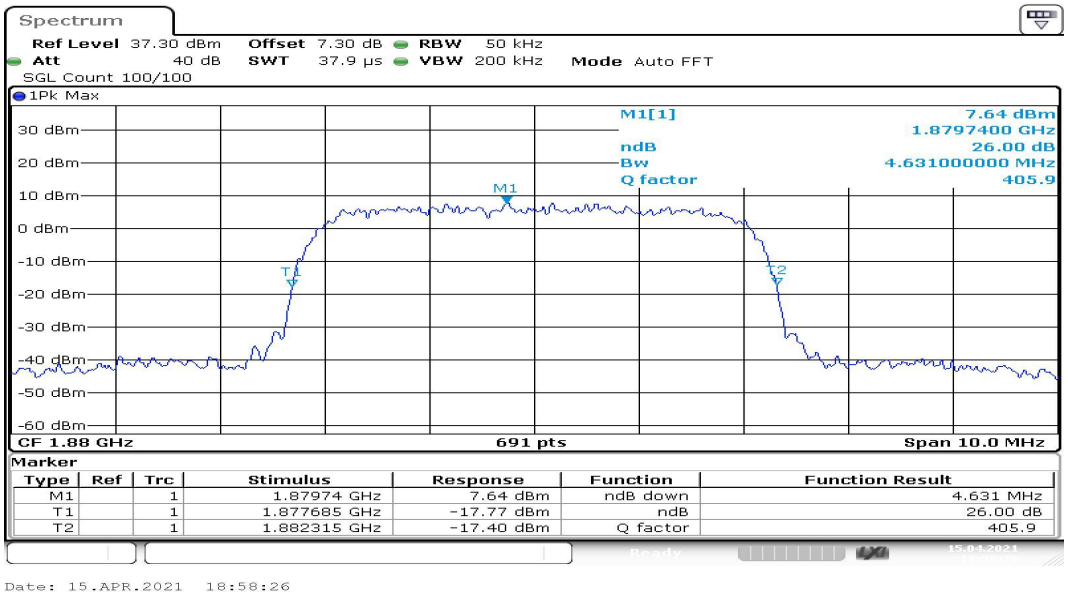
Carrier frequency (MHz)	Channel No.	Bandwidth of -26dBc Power (MHz)
1852.4	9262	4.66
1880	9400	4.65
1907.6	9538	4.62

WCDMA band II

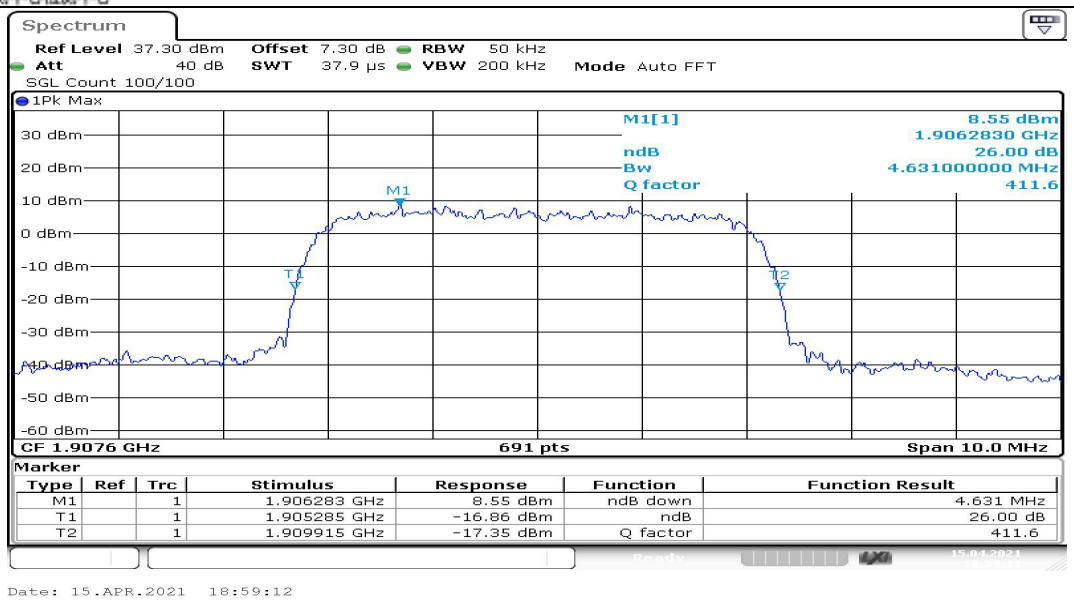
REL99 Mode:



Channel 9262



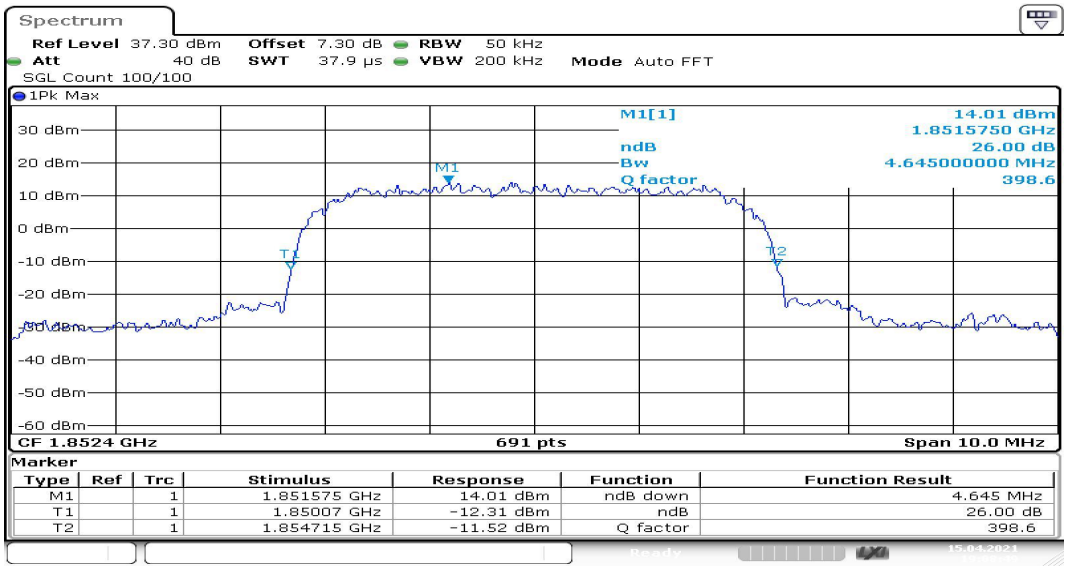
Channel 9400



Date: 15.APR.2021 18:59:12

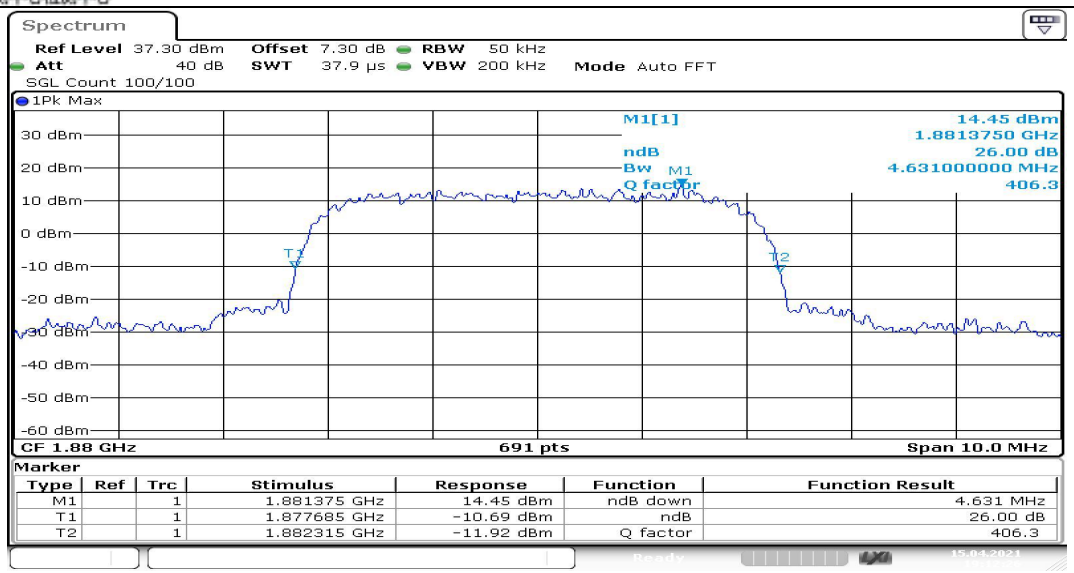
Channel 9538

HSDPA Mode:



Date: 15.APR.2021 19:08:50

Channel 9262

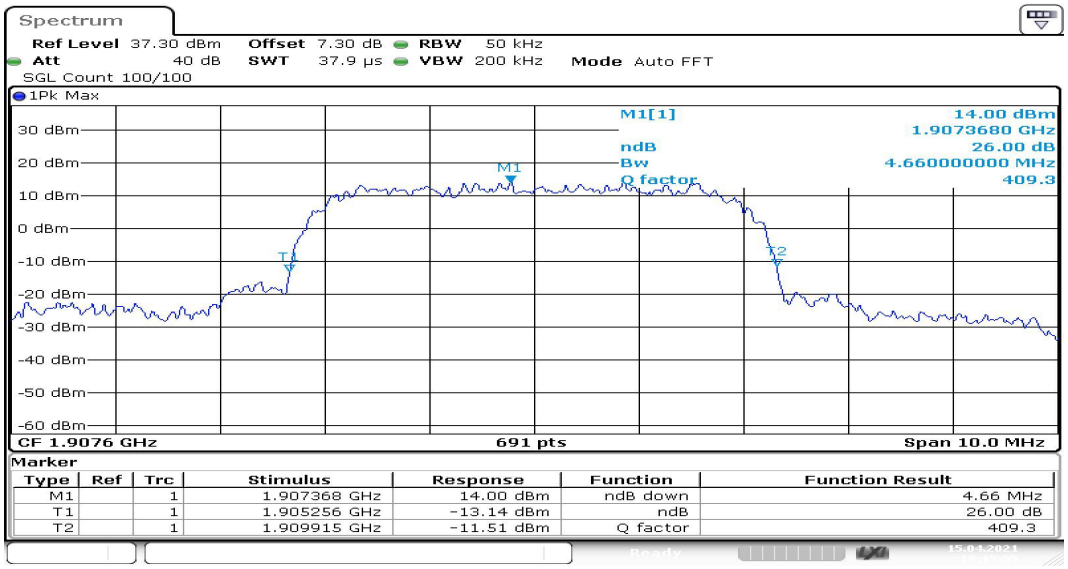


Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	1.881375 GHz	14.45 dBm	ndB down	4.631 MHz
T1		1	1.877685 GHz	-10.69 dBm	ndB	26.00 dB
T2		1	1.882315 GHz	-11.92 dBm	Q factor	406.3

Date: 15.APR.2021 19:12:27

Channel 9400



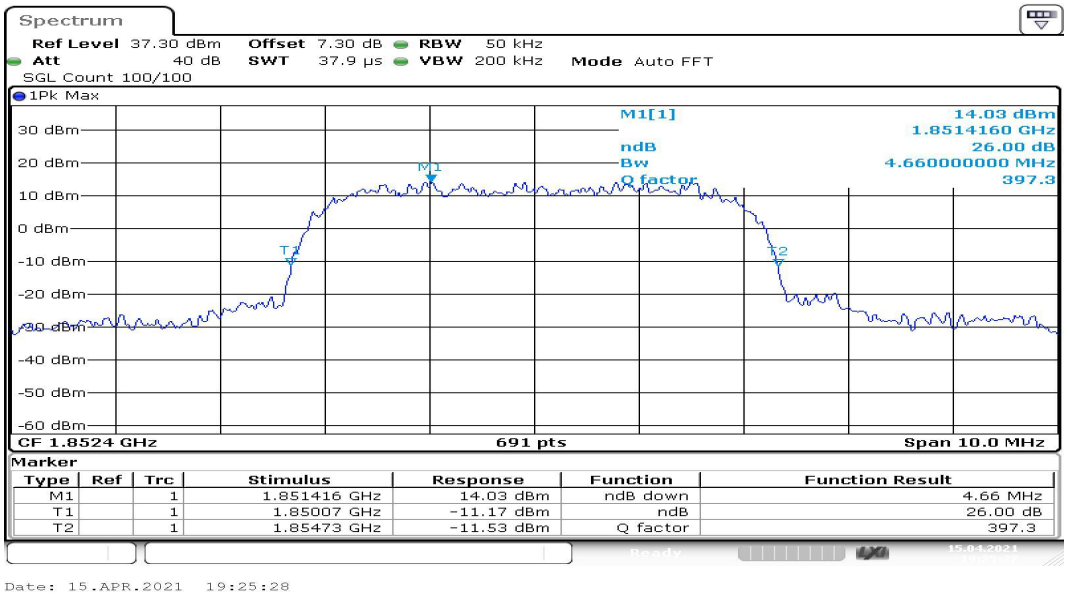
Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	1.907368 GHz	14.00 dBm	ndB down	4.66 MHz
T1		1	1.905256 GHz	-13.14 dBm	ndB	26.00 dB
T2		1	1.909915 GHz	-11.51 dBm	Q factor	409.3

Date: 15.APR.2021 19:15:55

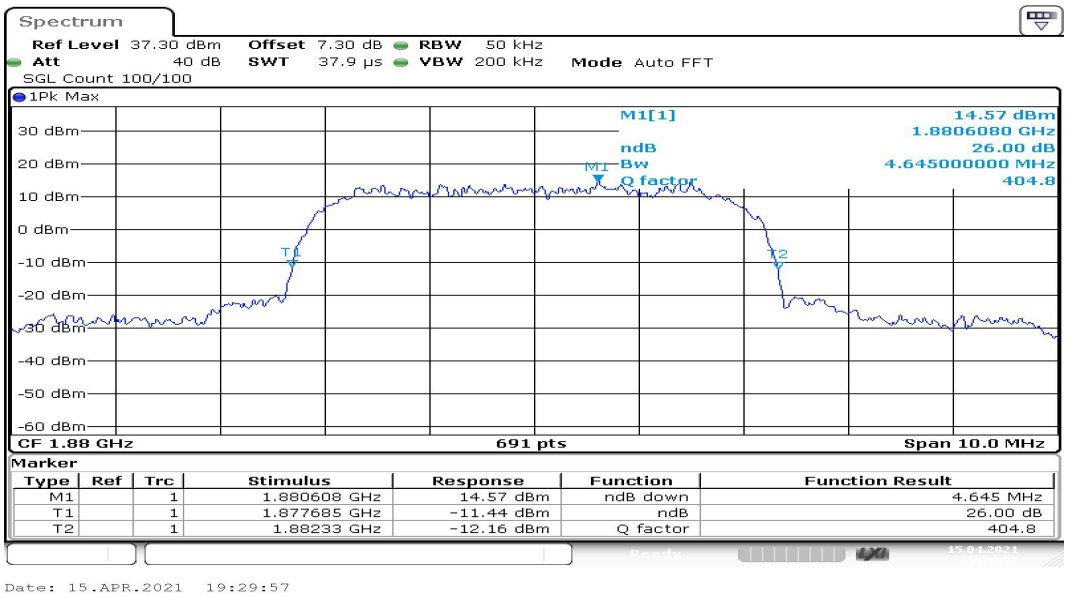
Channel 9538

HSUPA Mode:



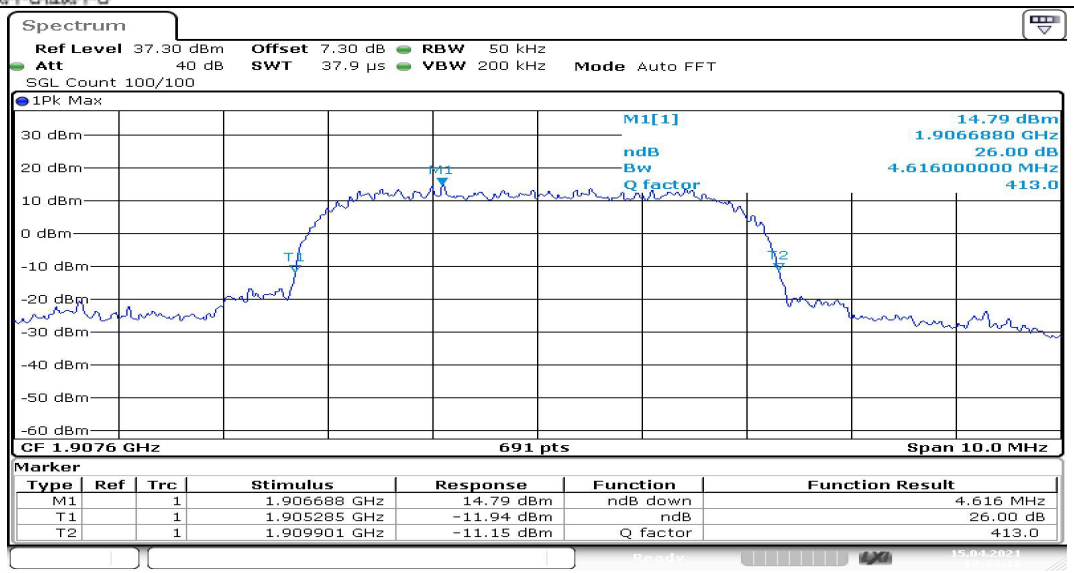
Date: 15.APR.2021 19:25:28

Channel 9262



Date: 15.APR.2021 19:29:57

Channel 9400



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	1.906688 GHz	14.79 dBm	ndB down	4.616 MHz
T1		1	1.905285 GHz	-11.94 dBm	ndB	26.00 dB
T2		1	1.909901 GHz	-11.15 dBm	Q factor	413.0

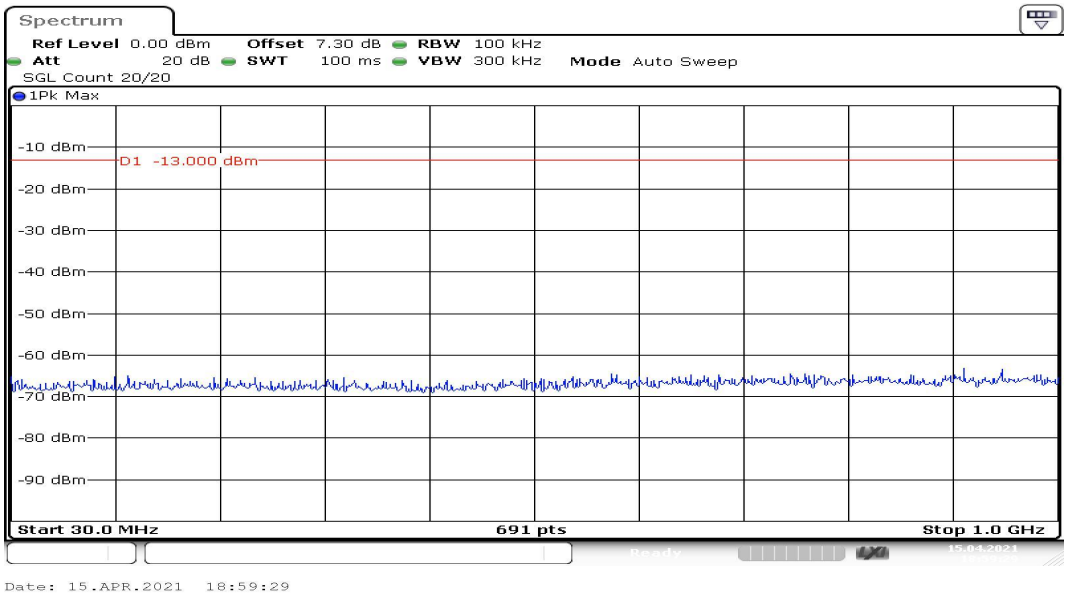
Date: 15.APR.2021 19:34:18

Channel 9538

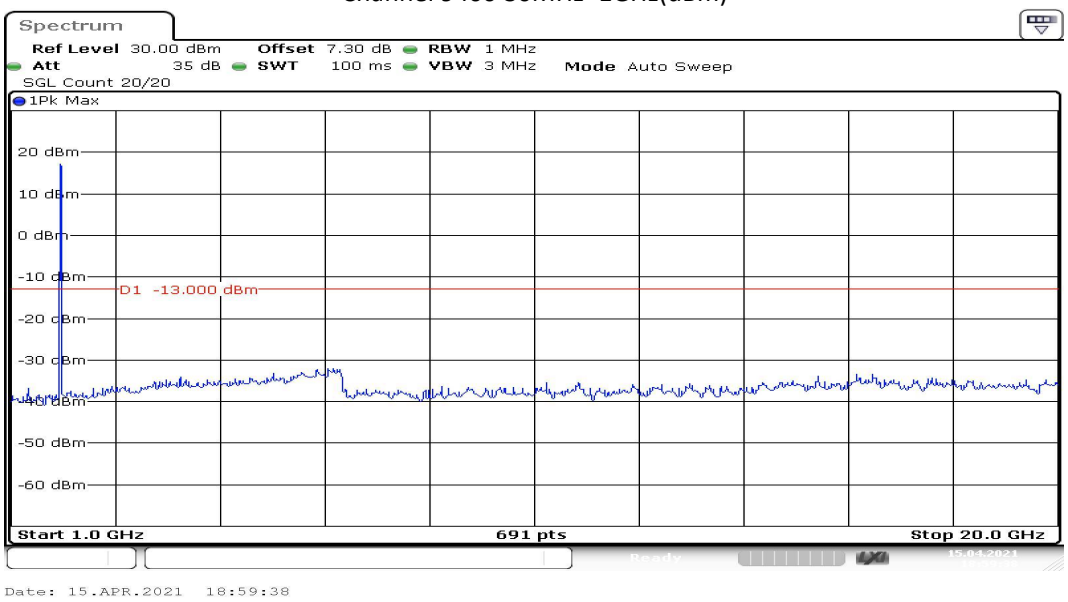
4. Spurious Emissions at antenna terminal

WCDMA band II

REL99 Mode:



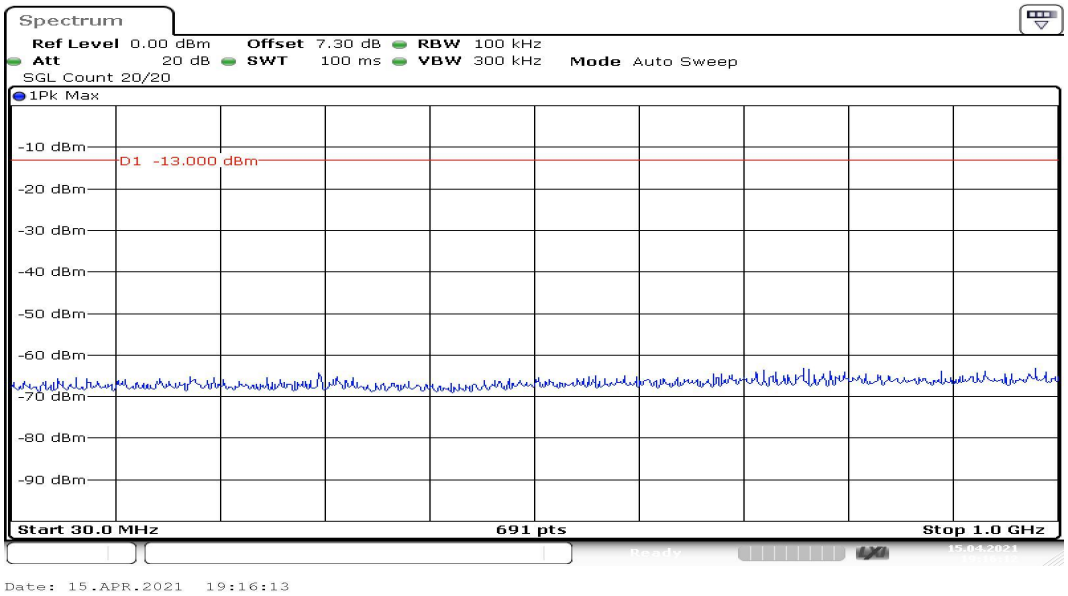
Channel 9400 30MHz~1GHz(dBm)



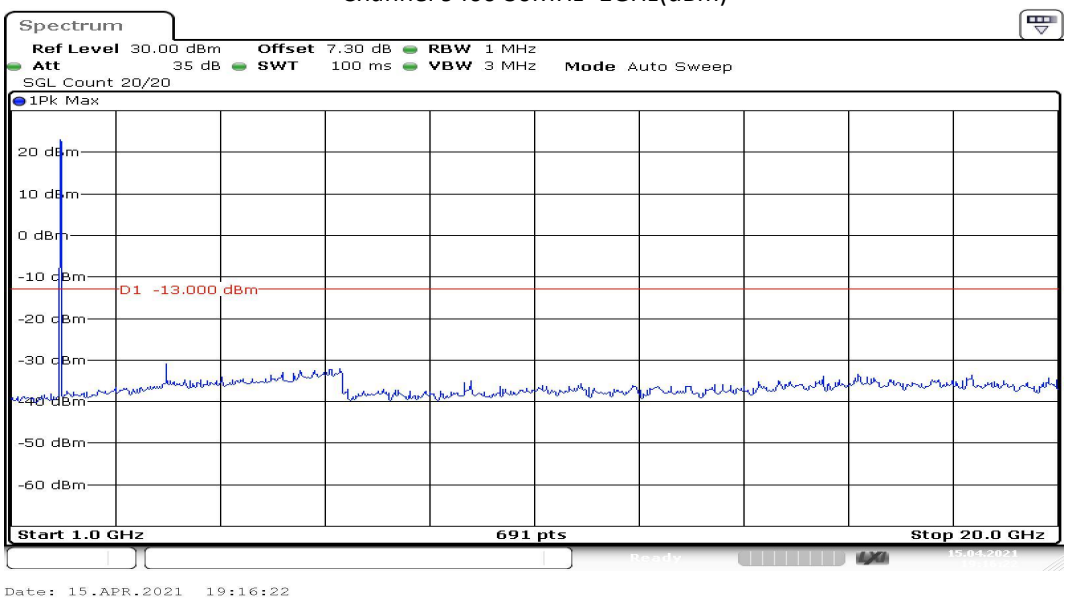
Channel 9400 1GHz~20GHz(dBm)

Note: The signal beyond the limit is the signal transmitted by EUT.

HSDPA Mode:



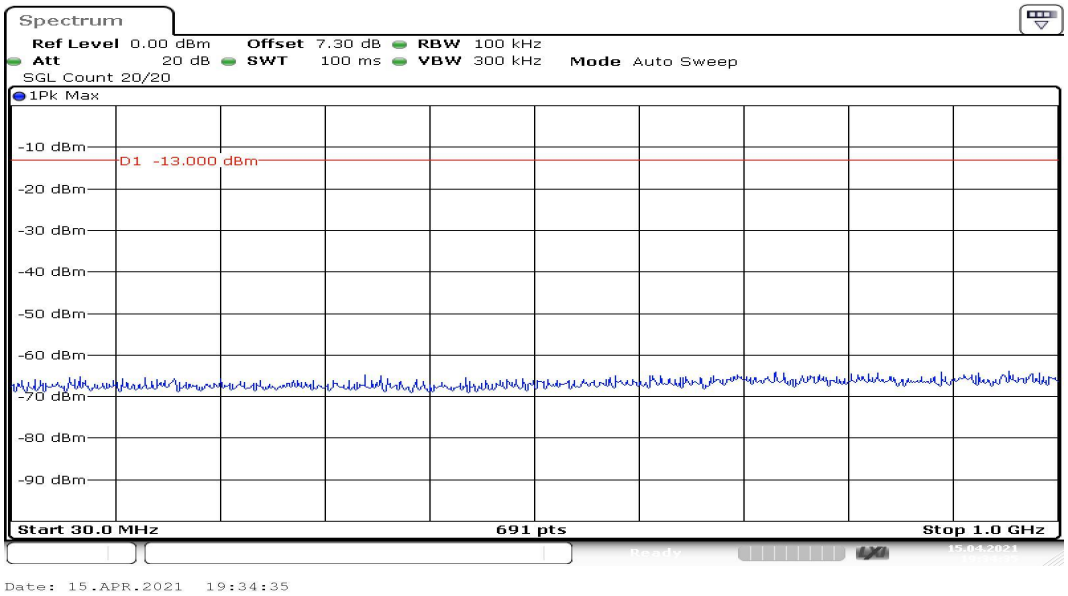
Channel 9400 30MHz~1GHz(dBm)



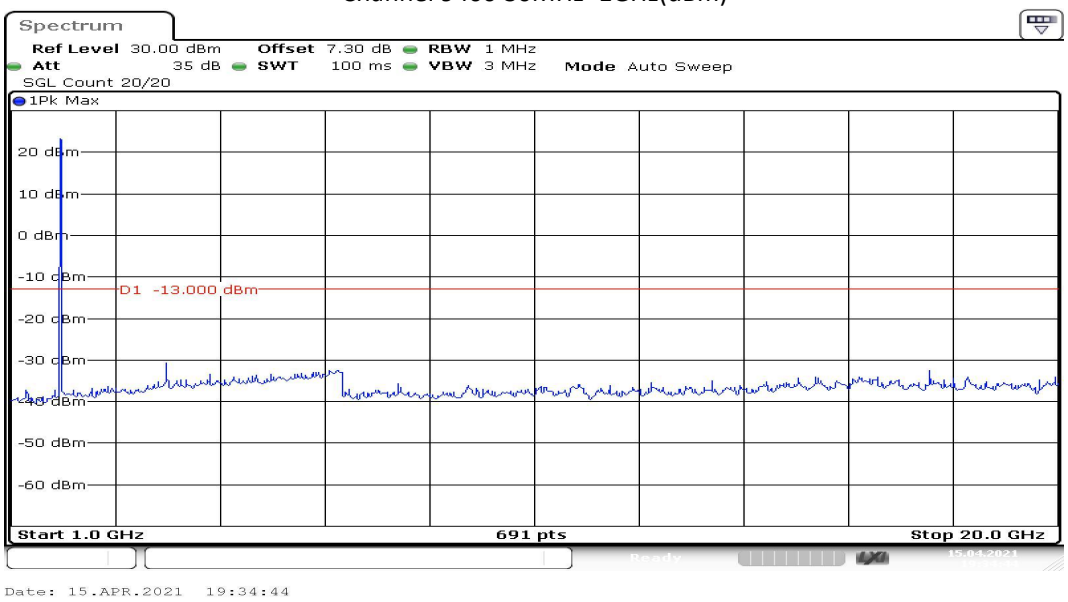
Channel 9400 1GHz~20GHz(dBm)

Note: The signal beyond the limit is the signal transmitted by EUT.

HSUPA Mode:



Channel 9400 30MHz~1GHz(dBm)



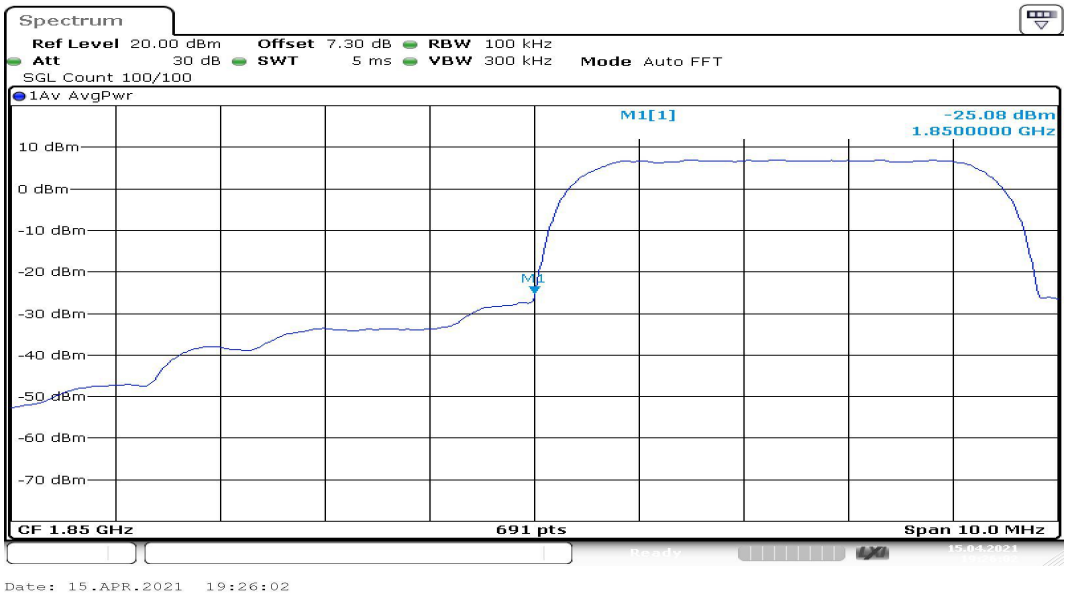
Channel 9400 1GHz~20GHz(dBm)

Note: The signal beyond the limit is the signal transmitted by EUT.

5. Band Edges Compliance

WCDMA band II

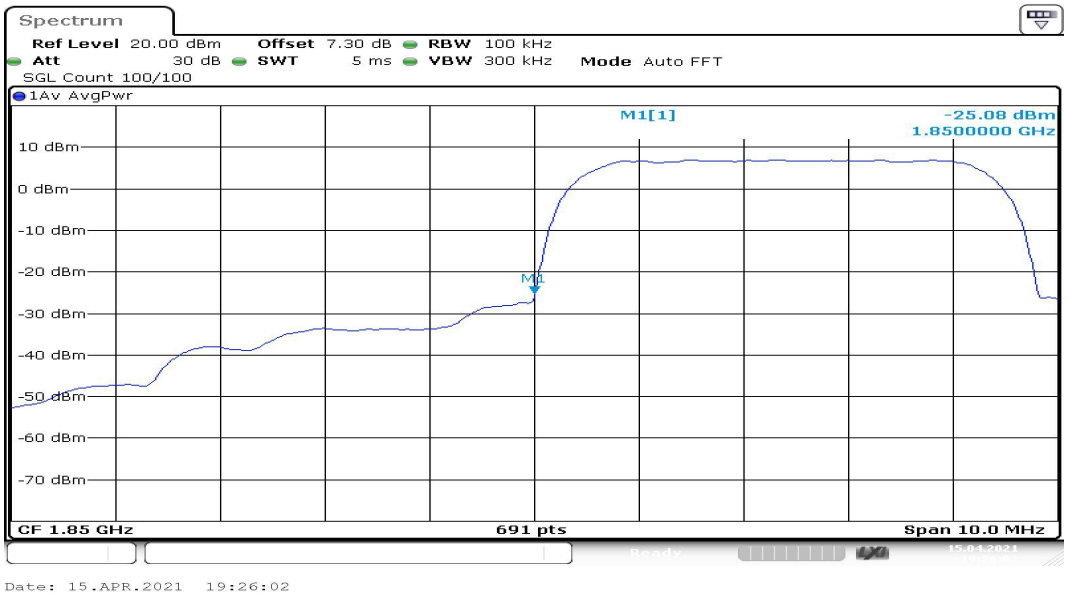
REL99 Mode:



Channel 9262

Channel 9538

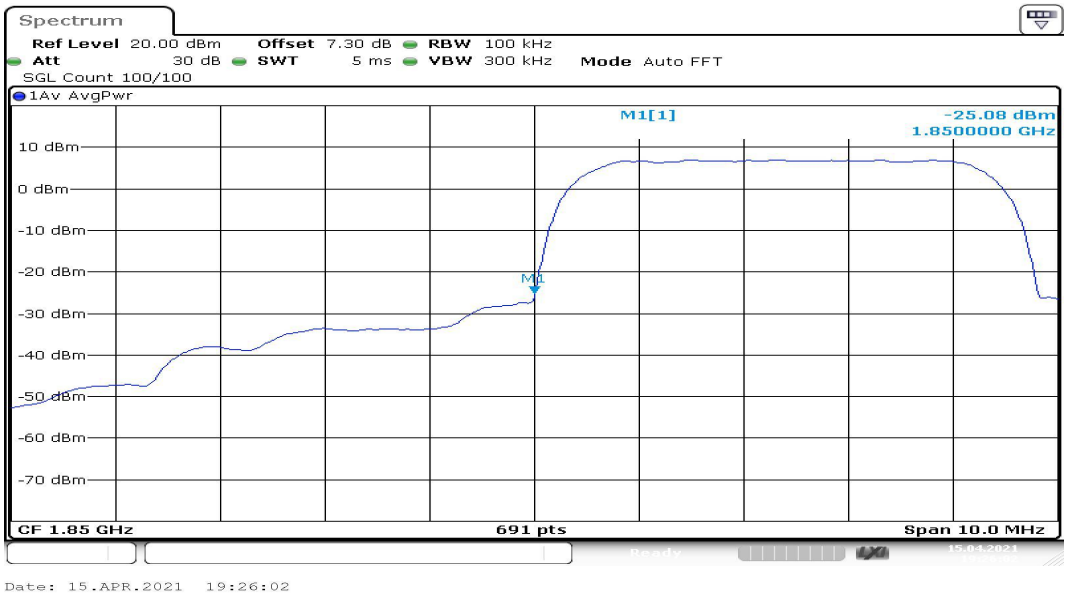
HSDPA Mode:



Channel 9262

Channel 9538

HSUPA Mode:



Channel 9262

Channel 9538

6. Frequency Stability

WCDMA band II

REL99 Mode:

Temperature(°C)	Test Result (ppm)@NV		
	Channel 9262	Channel 9400	Channel 9538
-20	-0.003	0.004	0.002
-10	0.000	0.000	0.002
0	-0.003	0.003	0.005
+10	0.000	0.004	0.004
+20	0.000	0.000	0.000
+30	-0.002	0.000	0.000
+40	-0.002	0.000	0.002
+50	-0.001	0.000	0.002
+55	-0.003	-0.001	0.002
Voltage	Test Result (ppm)@NT		
	Channel 9262	Channel 9400	Channel 9538
LV	-0.004	0.000	0.002
HV	-0.003	-0.001	0.004

HSDPA Mode:

Temperature(°C)	Test Result (ppm)@NV		
	Channel 9262	Channel 9400	Channel 9538
-20	-0.004	0.001	-0.001
-10	-0.002	0.001	0.002
0	-0.003	0.001	-0.002
+10	-0.002	0.002	-0.002
+20	0.000	0.000	0.000
+30	-0.002	0.000	-0.001
+40	0.000	0.000	0.000
+50	0.002	0.001	-0.001
+55	-0.003	0.000	-0.002
Voltage	Test Result (ppm)@NT		
	Channel 9262	Channel 9400	Channel 9538
LV	-0.001	0.001	-0.002
HV	-0.004	0.000	-0.001

HSUPA Mode:

Temperature(°C)	Test Result (ppm)@NV		
	Channel 9262	Channel 9400	Channel 9538
-20	0.002	-0.001	-0.001
-10	0.007	0.000	0.000
0	0.001	0.001	0.003
+10	0.003	0.001	-0.001
+20	0.000	0.000	0.000
+30	0.003	-0.001	0.001
+40	0.003	0.000	0.001
+50	0.003	0.001	0.002
+55	0.000	-0.001	0.004
Voltage	Test Result (ppm)@NT		
	Channel 9262	Channel 9400	Channel 9538
LV	0.002	0.000	0.000
HV	0.000	0.001	0.000