





Test Report No.: FCC2021-0035-RF2

## **RF Test Report**

EUT : Quamtum Access Q3

MODEL : Access Q3

BRAND NAME : N/A

CLIENT : QUAMTUM CONNECTIVITY DE

MEXICO, S.A. DE C.V.

Classification Of Test : N/A

**CVC Testing Technology Co., Ltd.** 



**Test Report No.: FCC2021-0035-RF2** Page 2 of 133

		Name : QUAMTU	JM CONNECTIV	ITY DE ME	XICO, S.A. DE C.V.
Client	Address : Torcuato Tasso 245, Despacho 403, Oficina 21Col. Polanco V Sección, C.P. 11560 Alcaldía Miguel Hidalgo, CDMX,México				
		Name : QUAMTU	JM CONNECTIV	ITY DE ME	XICO, S.A. DE C.V.
Manufacturer		Address : Torcuato Tasso 245, Despacho 403, Oficina 21Col. Polanco V Sección, C.P. 11560 Alcaldía Miguel Hidalgo, CDMX,México			
		Name : Quamtu	m Access Q3		
		Model/Type: Ac	cess Q3		
Equipment Under	Test	Trade mark : N/A	<b>\</b>		
		Serial NO.:N/A			
		Sampe NO.:3-1			
Date of Receipt.	:	2021.11.18	Date of T	esting	2021.11.18~2021.12.04
Test Spec	cificatio	n	Test Result		Result
ANSI C63.26-2015,FC0 FCC Part 2,AN		•		PA	SS
		The equipm	lent under test	was found	I to comply with the
Evaluation of Test Resu	lt	requirements of the standards applied.			
				I:	ssue Date: 2021.12.0
Tested by:		Reviewed by:		Approv	ved by:
Xu Zhanfei		Lingonghai Charthuana		anthum -	
Xu ZhenFei		Liu Yo			Chen HuaWen
Name Signatu Other Aspects: NONE.	ire	Name	Signature	Nam	ne Signature
Abbreviations:OK, Pass= passed	I	Fail = failed N/A	= not applicable	EUT= equi	pment, sample(s) under tested
This test report relates only to the	he EUT, a	ınd shall not be reprodu	uced except in full, v	without writter	approval of CVC.



**Test Report No.: FCC2021-0035-RF2** Page 3 of 133

### **TABLE OF CONTENTS**

	TABLE OF CONTENTS				
R	ELEASE (	CONTROL RECORD	5		
1	SUM	MARY OF TEST RESULTS	6		
2	GEN	ERAL INFORMATION	7		
	2.1	GENERAL PRODUCT INFORMATION	7		
		DESCRIPTION OF ACCESSORIES			
		TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL			
		GENERAL DESCRIPTION OF APPLIED STANDARDS			
		DESCRIPTION OF SUPPORT UNITS			
	2.6	LIST OF TEST AND MEASUREMENT INSTRUMENTS	9		
	2.7	MEASUREMENT UNCERTAINTY	10		
	2.8	TEST LOCATION	10		
3	TEST	TYPES AND RESULTS	11		
	3.1	OUT POWER MEASUREMENT	11		
	3.1.1	LIMITS OF OUTPUT POWER MEASUREMENT	11		
	3.1.2				
	3.1.3				
	3.1.4	TEST RESULTS	11		
	3.2	FREQUENCY STABILITY	12		
	3.2.1	LIMITS OF FREQUENCY STABILIITY MEASUREMENT	12		
	3.2.2				
	3.2.3	TEST SETUP	12		
	3.2.4	TEST RESULTS	12		
	3.3	OCCUPIED BANDWIDTH MEASUREMENT			
	3.3.1				
	3.3.2	1			
	3.3.3	TEST RESULTS	13		
	3.4	BAND EDGE MEASUREMENT			
	3.4.1				
	3.4.2				
	3.4.3				
	3.4.4				
		CONDUCTED SPURIOUS EMISSIONS			
	3.5.1				
	3.5.2 3.5.3				
	3.5.3 3.5.4				
		RADIATED EMISSION MEASUREMENT			
	3.6.1				
	3.6.2				
	3.6.3				
	3.6.4				
		PEAK TO AVERAGE RATIO			
	3.7.1				
	3.7.2				
	3.7.3	TEST PROCEDURES	25		
	3.7.4	TEST RESULTS	25		
4	PHO	TOGRAPHS OF TEST SETUP	26		
F	امار ۸ ا	NDIX A	77		
5	APPI	:иил А	2/		



Test Report No.: FCC2021-0035-RF2	Page 4 of 133
TEST REPORT NO FCCZ0Z I=0033=RFZ	raye 4 01 133

5.1 Ou	ITPUT POWER	27
5.1.1	Test Result(WCDMA)	27
5.1.2	Test Result(HSDPA)	27
5.1.3	Test Result(HSUPA)	
5.2 PEA	AK-TO-AVERAGE RATIO	29
5.2.1	Test Result(WCDMA)	29
5.2.2	Test Result(HSDPA)	29
5.2.3	Test Result(HSUPA)	
5.2.4	Test Graphs(WCDMA)	31
5.2.5	Test Graphs(HSDPA)	32
5.2.6	Test Graphs(HSUPA)	36
5.3 Oc	CUPIED BANDWIDTH	41
5.3.1	Test Result(WCDMA)	41
5.3.2	Test Result(HSDPA)	41
5.3.3	Test Result(HSUPA)	41
5.3.4	Test Graphs(WCDMA)	42
5.3.5	Test Graphs(HSDPA)	43
5.3.6	Test Graphs(HSUPA)	47
5.4 BA	ND EDGE	52
5.4.1	Test Result(WCDMA)	52
5.4.2	Test Result(HSDPA)	52
5.4.3	Test Result(HSUPA)	52
5.4.4	Test Graphs(WCDMA)	53
5.4.5	Test Graphs(HSDPA)	54
5.4.6	Test Graphs(HSUPA)	57
5.5 Co	NDUCTED SPURIOUS EMISSION	61
5.5.1	Test Result(WCDMA)	61
5.5.2	Test Result(HSDPA)	61
5.5.3	Test Result(HSUPA)	63
5.5.4	Test Graphs(WCDMA)	65
5.5.5	Test Graphs(HSDPA)	71
5.5.6	Test Graphs(HSUPA)	95
5.6 FRE	equency Stability	125
5.6.1	Test Result(WCDMA)	125
5.6.2	Test Result(HSDPA)	126
5.6.3	Test Result(HSUPA)	129



**Test Report No.: FCC2021-0035-RF2** Page 5 of 133

### **RELEASE CONTROL RECORD**

ISSUE NO. REASON FOR CHANGE		DATE ISSUED
FCC2021-0035-RF2	Original release	2021.12.08



**Test Report No.: FCC2021-0035-RF2** Page 6 of 133

#### 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 24 & Part 2				
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK	
2.1046	RF power output	PASS	Meet the requirement of limit.	
24.232(c)	Equivalent Isotropic Radiated Power	PASS	Meet the requirement of limit.	
2.1055 24.235	Frequency Stability	PASS	Meet the requirement of limit.	
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.	
24.232(d)	Band Edge Compliance	PASS	Meet the requirement of limit.	
2.1051 24.238(a)	Conducted Spurious Emission	PASS	Meet the requirement of limit.	
2.1053 24.238(a)	Radiates Spurious Emission	PASS	Meet the requirement of limit.	
24.232	Peak-to-Average Power Ratio	PASS	Meet the requirement of limit.	



**Test Report No.: FCC2021-0035-RF2** Page 7 of 133

#### 2 GENERAL INFORMATION

#### 2.1 GENERAL PRODUCT INFORMATION

PRODUCT	Quamtum Access Q3		
BRAND	N/A		
MODEL	Access Q3		
ADDITIONAL MODEL	N/A		
FCC ID	2A3WD-ACCE	ESS-Q3	
POWER SUPPLY	DC 12V From Adapter		
MODULATION TYPE	WCDMA BPSK, QPSK		
ODEDATING EDECUENCY	Band	TX(MHz)	RX(MHz)
OPERATING FREQUENCY	WCDMA B2	1850 ~ 1910	1930 ~ 1990
MAX POWER	WCDMA B2: 22.95dBm (Maximum)		
ANTENNA TYPE	PCB Antenna with 1dBi gain for WCDMA B2		
I/O PORTS	Refer to user's manual		
CABLE SUPPLIED	N/A		

#### Remark:

- For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- 2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- 3. Please refer to the EUT photo document (Reference No.: FCC2021-0035-E) for detailed product photo.
- 4. The EUT have SISO function, provides 1 completed transmitter and 1 receiver.

MODULATION MODE	TX FUNCTION
WCDMA	1TX/1RX diversity

#### 2.2 Description of Accessories

Adapter			
BRAND	Quamtum		
Model No.:	ZL-A012W1201000		
Input: 100-240 V~50/60 Hz 0.5 A Max			
Output: 12.0 V == 1 A			
AC Cable: N/A			
DC Cable:	1.50 Meter, Unshielded without ferrite		



**Test Report No.: FCC2021-0035-RF2** Page 8 of 133

#### 2.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.

EUT CONFIGURE MODE	DESCRIPTION
-	EUT + Adapter + with WCDMA

#### **WCDMA** Test mode

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
-	RF power output	9262 to 9538	9262, 9400, 9538	WCDMA
-	Equivalent Isotropic Radiated Power	9262 to 9538	9262, 9400, 9538	WCDMA
-	Frequency Stability	9262 to 9538	9262, 9538	WCDMA
-	Occupied Bandwidth	9262 to 9538	9262, 9400, 9538	WCDMA
-	Band Edge Compliance	9262 to 9538	9262, 9400, 9538	WCDMA
-	Conducted Spurious Emission	9262 to 9538	9262, 9538	WCDMA
-	Radiates Spurious Emission	9262 to 9538	9262, 9400, 9538	WCDMA
-	Peak-to-Average Power Ratio	9262 to 9538	9262, 9400, 9538	WCDMA

#### **Test CONDITION:**

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RF power output	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Equivalent Isotropic Radiated Power	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Frequency Stability	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Occupied Bandwidth	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Band Edge Compliance	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Conducted Spurious Emission	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Radiates Spurious Emission	23deg. C, 63%RH	DC 12V from Adapter	LI JiaLin
Peak-to-Average Power Ratio	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin



**Test Report No.: FCC2021-0035-RF2** Page 9 of 133

#### 2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR PART 2

FCC 47 CFR PART 24

KDB 971168 D01 POWER MEAS LICENSE DIGITAL SYSTEMS V03R01

ANSI/TIA-603-E

ANSI C63.26-2015

Note: All test items have been performed and recorded as per the above standards

#### 2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

	Support Equipment									
NO	Description	1	Brand	Model No.	Serial N	Serial Number		Supplied by		
N/A	N/A		N/A	N/A	N/A	4		N/A		
	Support Cable									
NO	Description	Quantity (Number		Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Numbe		Supplied by		
N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		

#### 2.6 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Refer to Appendix B.



**Test Report No.: FCC2021-0035-RF2** Page 10 of 133

#### 2.7 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY		
Maximum Peak Output Power	±0.9dB		
Frequency Stability	$\pm$ 76.97Hz		
Radiated emissions (30MHz~1GHz)	±5.0dB		
Radiated emissions (1GHz ~18GHz)	±4.8dB		
Radiated emissions (18GHz ~40GHz)	±5.1dB		
Conducted emissions	±2.7dB		
Occupied Channel Bandwidth	±43.58KHz		
Band Edge Measurements	±2.7dB		
Peak to average ratio	±0.76dB		

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

#### 2.8 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab. of CVC Testing Technology Co., Ltd.

Address: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, China

Post Code: 510663 Tel: 020-32293888 FAX: 020-32293889 E-mail: office@cvc.org.cn

Test Firm Registration Number: 937273

CN Number: 26239 Wireless Test Site Registration Number: CN0103



**Test Report No.: FCC2021-0035-RF2** Page 11 of 133

#### 3 TEST TYPES AND RESULTS

#### 3.1 OUT POWER MEASUREMENT

#### 3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 2 watts e.r.p.

#### 3.1.2 TEST PROCEDURES

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

EIRP = PT + GT - LC, ERP= EIRP - 2.15dBi, where

PT = transmitter output power dBm;

GT = gain of the transmitting antenna dBi;

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

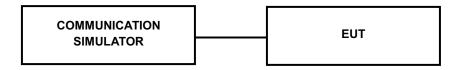
#### CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with WCDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

#### 3.1.3 TEST SETUP

#### **EIRP / ERP Measurement:**

#### CONDUCTED POWER MEASUREMENT:



#### 3.1.4 TEST RESULTS



**Test Report No.: FCC2021-0035-RF2** Page 12 of 133

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#### 3.2 FREQUENCY STABILITY

#### 3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

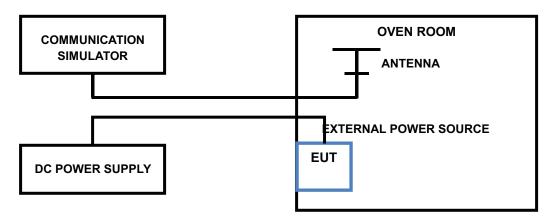
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

#### 3.2.2 TEST PROCEDURE

- a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5$ °C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

#### 3.2.3 TEST SETUP



#### 3.2.4 TEST RESULTS

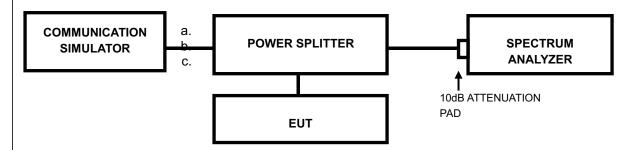
**Test Report No.: FCC2021-0035-RF2** Page 13 of 133

#### 3.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 3.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

#### 3.3.2 TEST SETUP



#### 3.3.3 TEST RESULTS



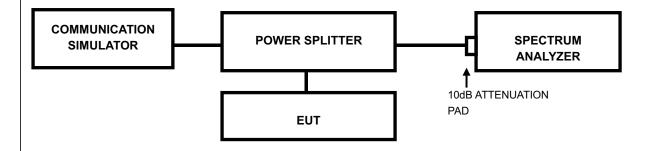
**Test Report No.: FCC2021-0035-RF2** Page 14 of 133

#### 3.4 BAND EDGE MEASUREMENT

#### 3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### 3.4.2 TEST SETUP





**Test Report No.: FCC2021-0035-RF2** Page 15 of 133

#### 3.4.3 TEST PROCEDURES

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 10MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).
- c. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 20kHz and VBW of the spectrum is 100 kHz. (LTE bandwidth 1.4MHz).
- d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 3MHz)
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 50kHz and VBW of the spectrum is 200kHz. (LTE bandwidth 5MHz)
- f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz)
- g. Set the spectrum with RMS detector.
- h. Record the max trace plot into the test report.

#### 3.4.4 TEST RESULTS



**Test Report No.: FCC2021-0035-RF2** Page 16 of 133

#### 3.5 CONDUCTED SPURIOUS EMISSIONS

#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

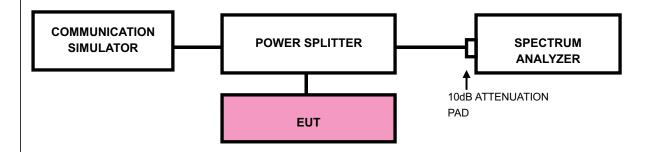
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P) \, dB$ . The emission limit equal to -13 dBm.

#### 3.5.2 TEST PROCEDURE

The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

Measuring frequency range is from 9 kHz to 9GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

#### 3.5.3 TEST SETUP



#### 3.5.4 TEST RESULTS



**Test Report No.: FCC2021-0035-RF2** Page 17 of 133

#### 3.6 RADIATED EMISSION MEASUREMENT

#### 3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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  $43 + 10 \log(P) \, dB$ . The emission limit equal to -13 dBm.

The spectrum is scanned from 30MHz up to a frequency including its 10<sup>th</sup> harmonic.

#### 3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power 2.15dBi.

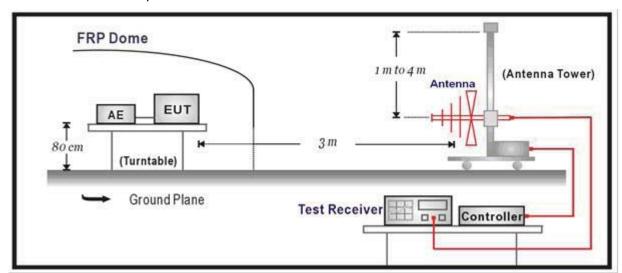
**NOTE**: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.



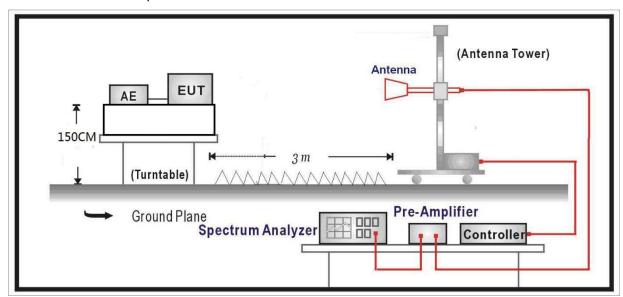
**Test Report No.: FCC2021-0035-RF2** Page 18 of 133

#### 3.6.3 TEST SETUP

Below 1GHz Test Setup:



#### Above 1GHz Test Setup:



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

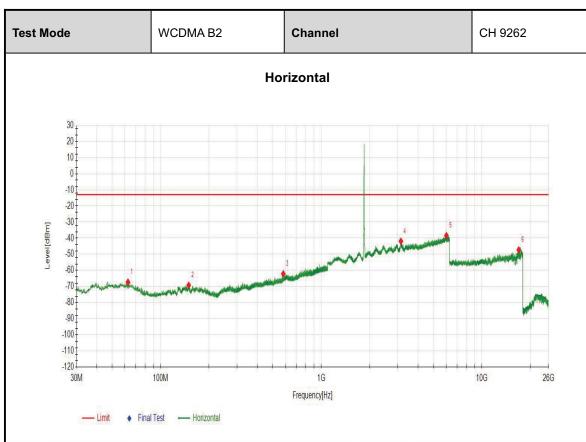
For the actual test configuration, please refer to the attached file (Test Setup Photo).



**Test Report No.: FCC2021-0035-RF2** Page 19 of 133

#### 3.6.4 TEST RESULTS

**ABOVE 1GHz DATA** 

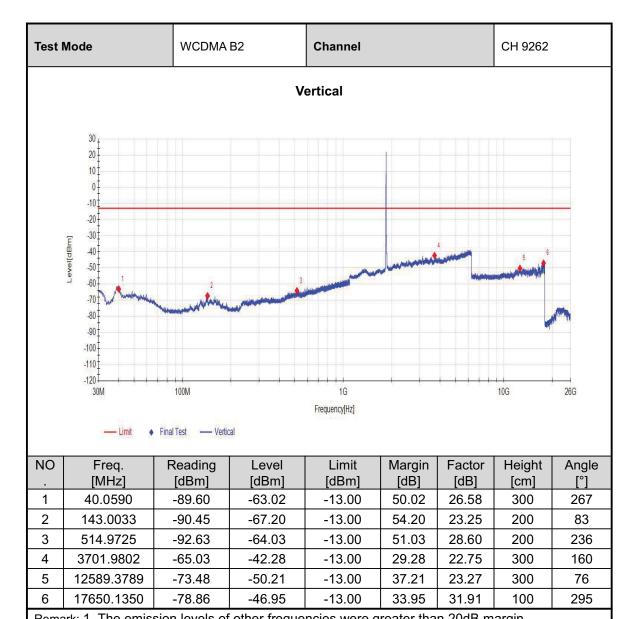


NO	Freq.	Reading	Level	Limit	Margin	Factor	Height	Angle
	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[cm]	L J
1	62.6383	-93.22	-67.24	-13.00	54.24	25.98	100	360
2	149.6380	-92.78	-69.16	-13.00	56.16	23.62	200	312
3	580.6771	-91.31	-62.10	-13.00	49.10	29.21	200	312
4	3130.6931	-67.35	-41.86	-13.00	28.86	25.49	300	0
5	6012.8713	-66.45	-38.39	-13.00	25.39	28.06	100	73
6	16956.2556	-78.69	-47.30	-13.00	34.30	31.39	100	228

- 2. Level (dBm) = Reading (dBm) + Factor (dB).
- 3. Margin(dB) = Limit[dBm] Level [dBm]



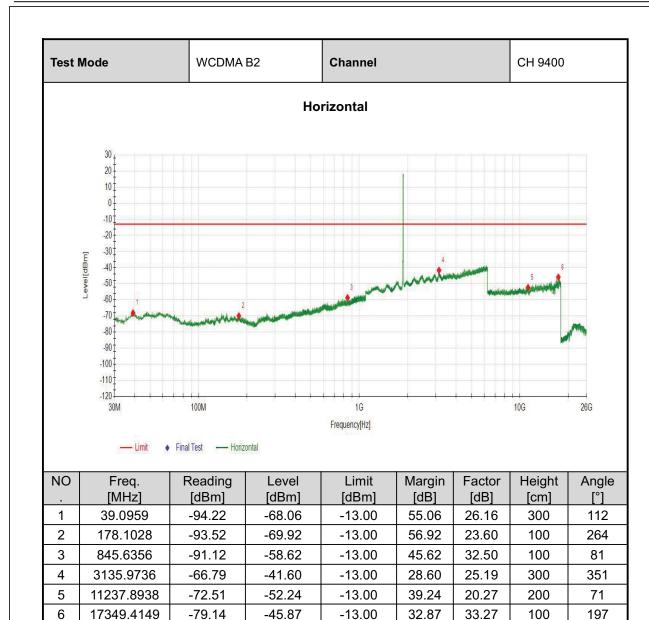
Test Report No.: FCC2021-0035-RF2 Page 20 of 133



- 2. Level (dBm) = Reading (dBm) + Factor (dB).
- 3. Margin(dB) = Limit[dBm] Level [dBm]



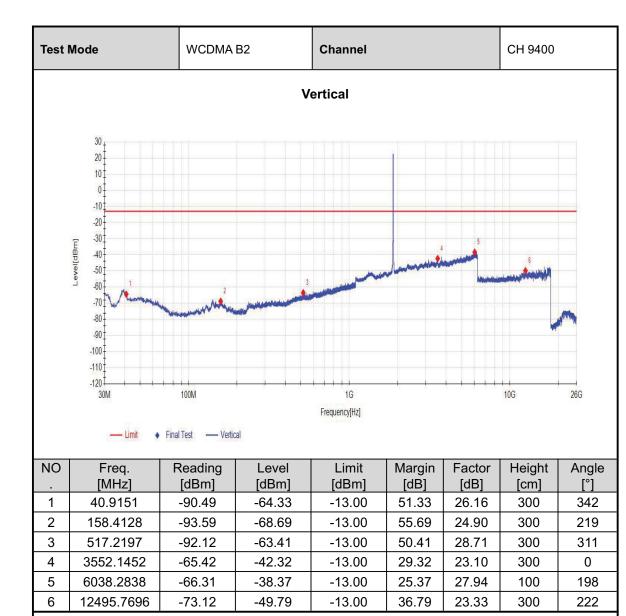
**Test Report No.: FCC2021-0035-RF2** Page 21 of 133



- 2. Level (dBm) = Reading (dBm) + Factor (dB).
- 3. Margin(dB) = Limit[dBm] Level [dBm]



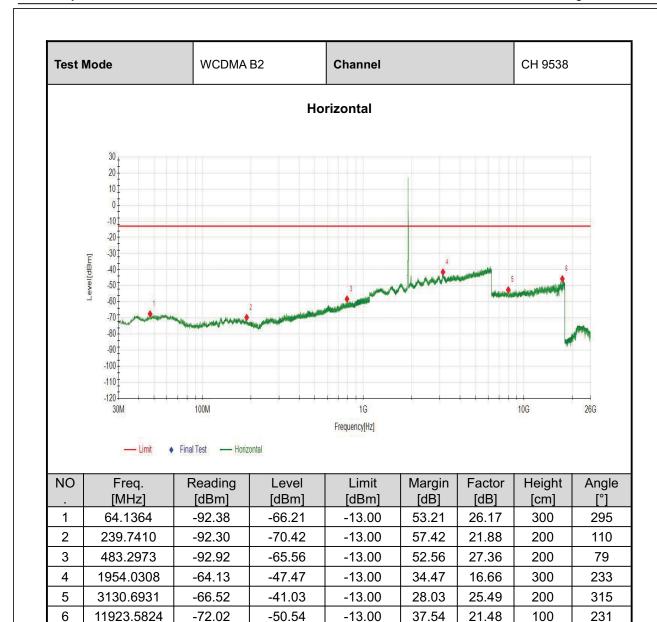
**Test Report No.: FCC2021-0035-RF2** Page 22 of 133



- 2. Level (dBm) = Reading (dBm) + Factor (dB).
- 3. Margin(dB) = Limit[dBm] Level [dBm]



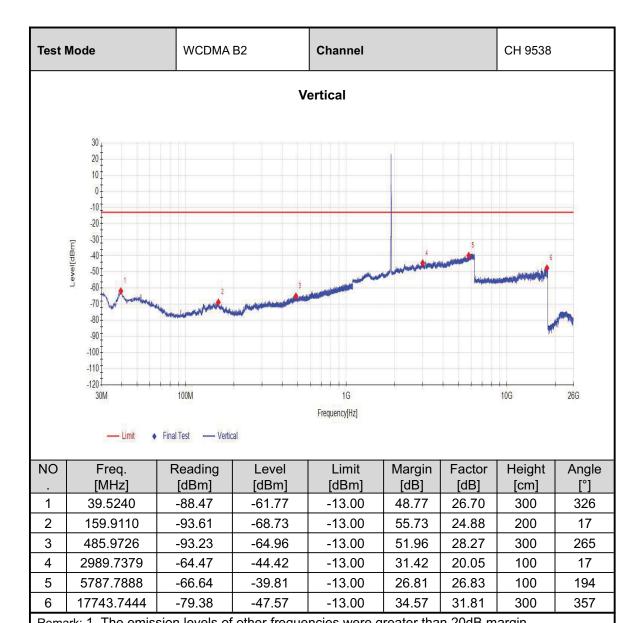
**Test Report No.: FCC2021-0035-RF2** Page 23 of 133



- 2. Level (dBm) = Reading (dBm) + Factor (dB).
- 3. Margin(dB) = Limit[dBm] Level [dBm]



Test Report No.: FCC2021-0035-RF2 Page 24 of 133



- 2. Level (dBm) = Reading (dBm) + Factor (dB).
- 3. Margin(dB) = Limit[dBm] Level [dBm]

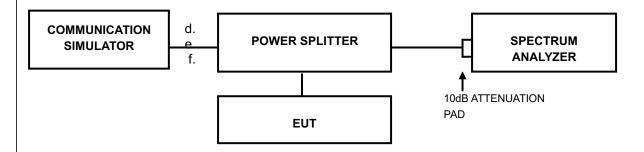
**Test Report No.: FCC2021-0035-RF2** Page 25 of 133

#### 3.7 PEAK TO AVERAGE RATIO

#### 3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

#### 3.7.2 TEST SETUP



#### 3.7.3 TEST PROCEDURES

- 1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
- 2. Set the number of counts to a value that stabilizes the measured CCDF curve;
- 3. Record the maximum PAPR level associated with a probability of 0.1%.

#### 3.7.4 TEST RESULTS



Test Report No.: FCC2021-0035-RF2 Page 26 of 133 PHOTOGRAPHS OF TEST SETUP Please refer to the attached file (Test Setup Photo).



**Test Report No.: FCC2021-0035-RF2** Page 27 of 133

### 5 Appendix A

#### 5.1 Output Power

#### 5.1.1 Test Result(WCDMA)

Band	Channel	Conducted Power (dBm)	EIRP Power (mw)	Limit (W)	Verdict
Band2	9262	22.83	241.55	2	PASS
Band2	9400	22.90	245.47	2	PASS
Band2	9538	22.95	248.31	2	PASS

#### 5.1.2 Test Result(HSDPA)

Band	Channel	SubTest	Conducted Power (dBm)	ERP/EIRP Power (mw)	Limit (W)	Verdict
Band2	9262	1	21.79	190.11	2	PASS
Band2	9262	2	21.41	174.18	2	PASS
Band2	9262	3	21.31	170.22	2	PASS
Band2	9262	4	21.28	169.04	2	PASS
Band2	9400	1	22.06	202.30	2	PASS
Band2	9400	2	21.48	177.01	2	PASS
Band2	9400	3	21.38	172.98	2	PASS
Band2	9400	4	21.40	173.78	2	PASS
Band2	9538	1	21.98	198.61	2	PASS
Band2	9538	2	21.46	176.20	2	PASS
Band2	9538	3	21.24	167.49	2	PASS
Band2	9538	4	21.37	172.58	2	PASS

### 5.1.3 Test Result(HSUPA)

Band	Channel	SubTest	Conducted Power (dBm)	ERP/EIRP Power (mw)	Limit (W)	Verdict
Band2	9262	1	20.96	157.04	2	PASS
Band2	9262	2	20.76	149.97	2	PASS
Band2	9262	3	19.94	124.17	2	PASS
Band2	9262	4	21.29	169.43	2	PASS
Band2	9262	5	21.82	191.43	2	PASS
Band2	9400	1	21.95	197.24	2	PASS
Band2	9400	2	21.08	161.44	2	PASS
Band2	9400	3	19.93	123.88	2	PASS
Band2	9400	4	21.06	160.69	2	PASS
Band2	9400	5	22.08	203.24	2	PASS



**Test Report No.: FCC2021-0035-RF2** Page 28 of 133

Band2	9538	1	21.21	166.34	2	PASS
Band2	9538	2	20.68	147.23	2	PASS
Band2	9538	3	20.37	137.09	2	PASS
Band2	9538	4	21.18	165.20	2	PASS
Band2	9538	5	21.99	199.07	2	PASS



**Test Report No.: FCC2021-0035-RF2** Page 29 of 133

#### 5.2 Peak-to-Average Ratio

### 5.2.1 Test Result(WCDMA)

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9262	8.5	13	PASS
Band2	9400	8.44	13	PASS
Band2	9538	8.48	13	PASS

#### 5.2.2 Test Result(HSDPA)

Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9262	1	3.4	13	PASS
Band2	9262	2	3.9	13	PASS
Band2	9262	3	4.06	13	PASS
Band2	9262	4	4.12	13	PASS
Band2	9400	1	3.38	13	PASS
Band2	9400	2	3.8	13	PASS
Band2	9400	3	3.96	13	PASS
Band2	9400	4	3.94	13	PASS
Band2	9538	1	3.44	13	PASS
Band2	9538	2	3.7	13	PASS
Band2	9538	3	3.84	13	PASS
Band2	9538	4	3.94	13	PASS

### 5.2.3 Test Result(HSUPA)

Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9262	1	4.82	13	PASS
Band2	9262	2	5.42	13	PASS
Band2	9262	3	5.58	13	PASS
Band2	9262	4	5.22	13	PASS
Band2	9262	5	4.54	13	PASS
Band2	9400	1	4.74	13	PASS
Band2	9400	2	3.44	13	PASS
Band2	9400	3	3.94	13	PASS
Band2	9400	4	3.44	13	PASS
Band2	9400	5	4.04	13	PASS
Band2	9538	1	4.24	13	PASS
Band2	9538	2	5.34	13	PASS
Band2	9538	3	4.88	13	PASS

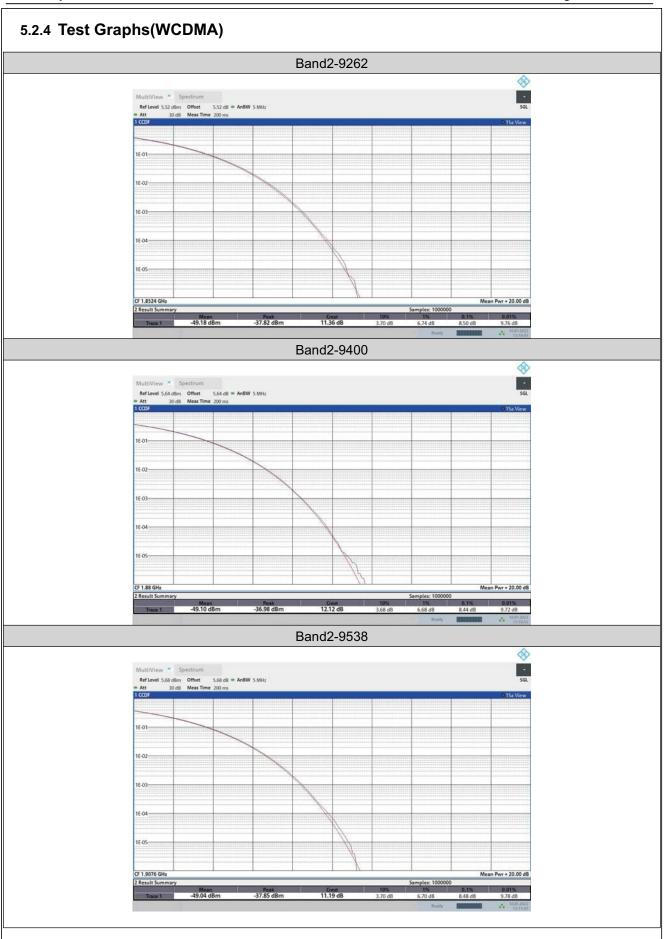


**Test Report No.: FCC2021-0035-RF2** Page 30 of 133

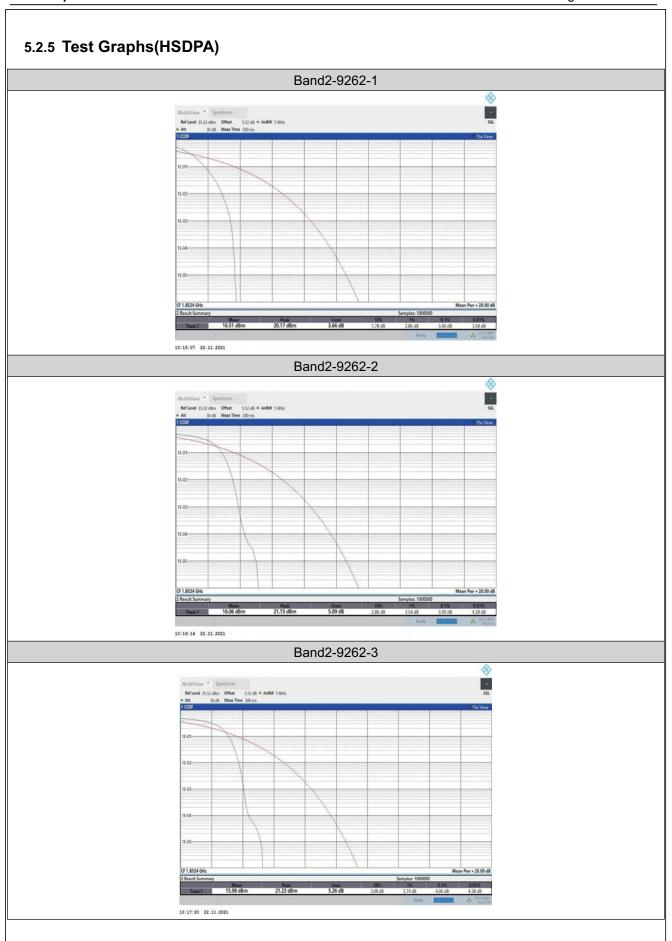
Band2	9538	4	5.26	13	PASS
Band2	9538	5	4.22	13	PASS



**Test Report No.: FCC2021-0035-RF2** Page 31 of 133

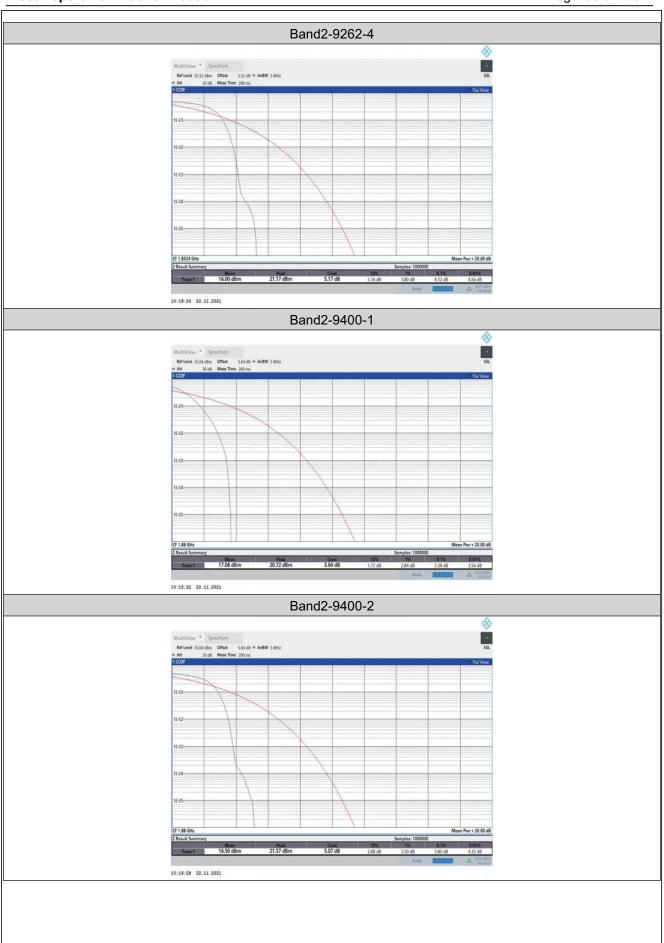


**Test Report No.: FCC2021-0035-RF2** Page 32 of 133



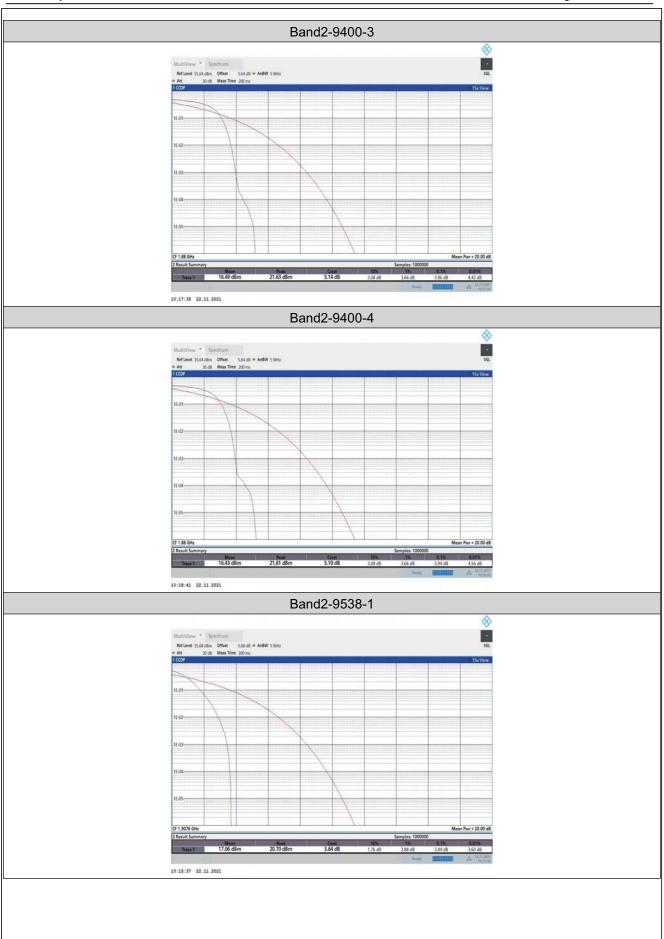


**Test Report No.: FCC2021-0035-RF2** Page 33 of 133



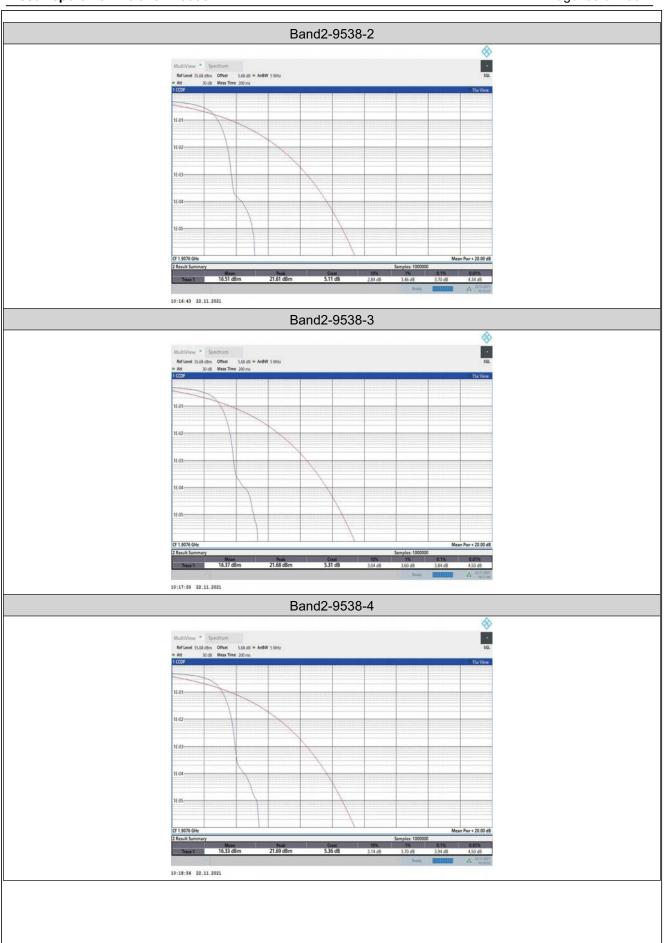


**Test Report No.: FCC2021-0035-RF2** Page 34 of 133



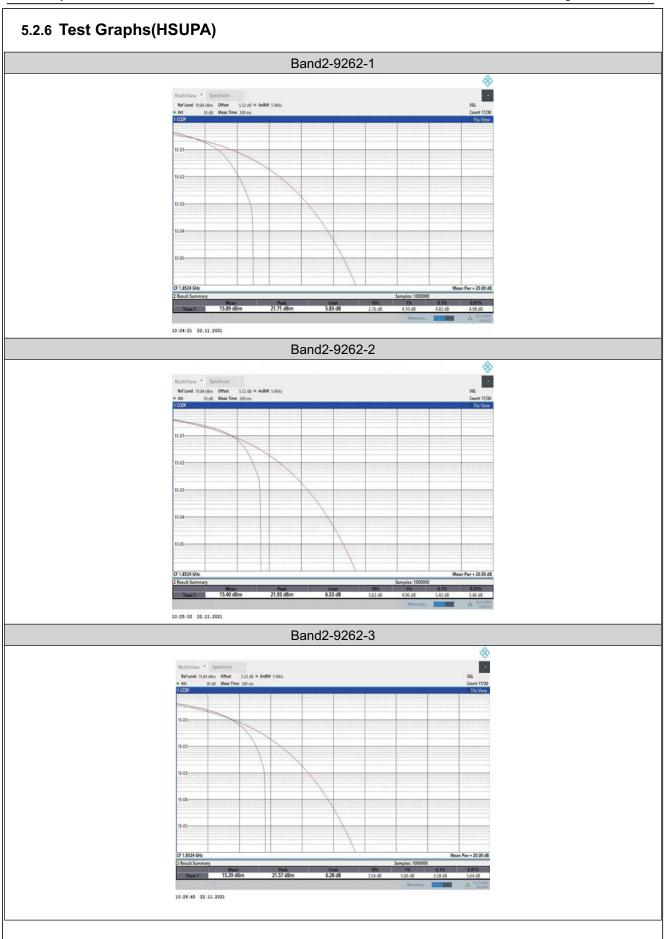


**Test Report No.: FCC2021-0035-RF2** Page 35 of 133



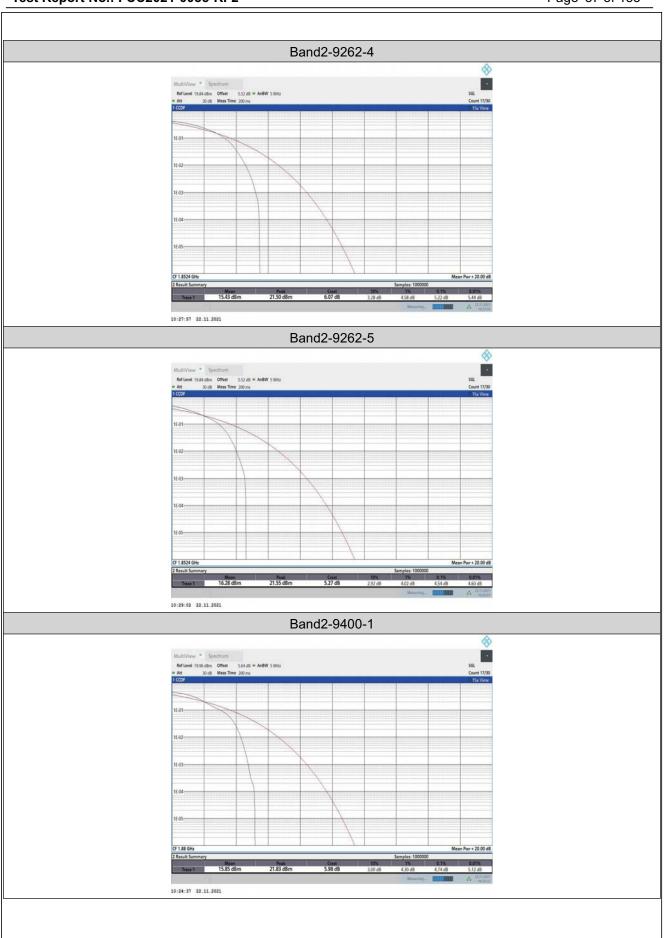


**Test Report No.: FCC2021-0035-RF2** Page 36 of 133



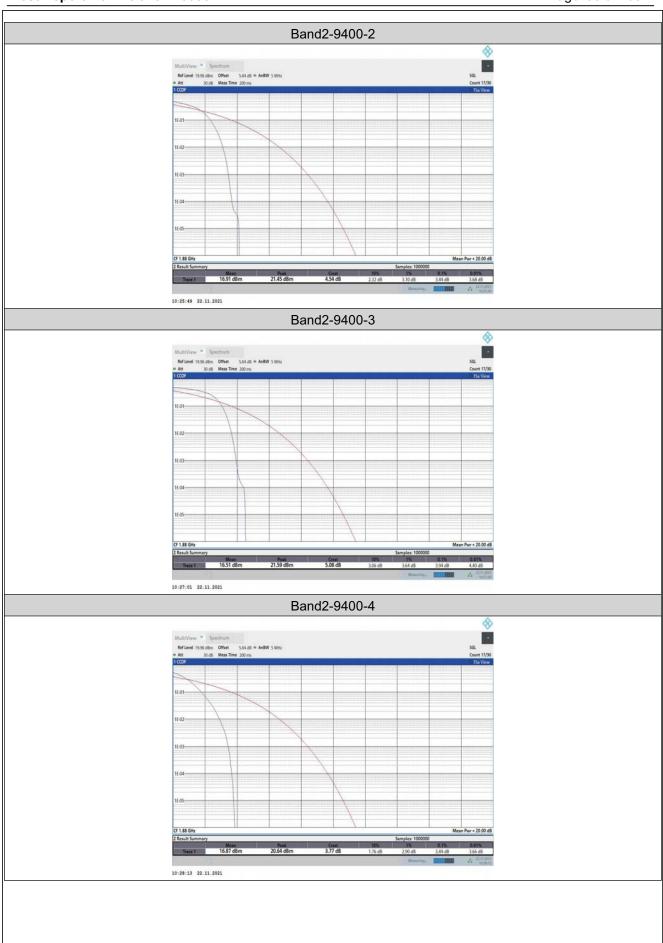


**Test Report No.: FCC2021-0035-RF2** Page 37 of 133



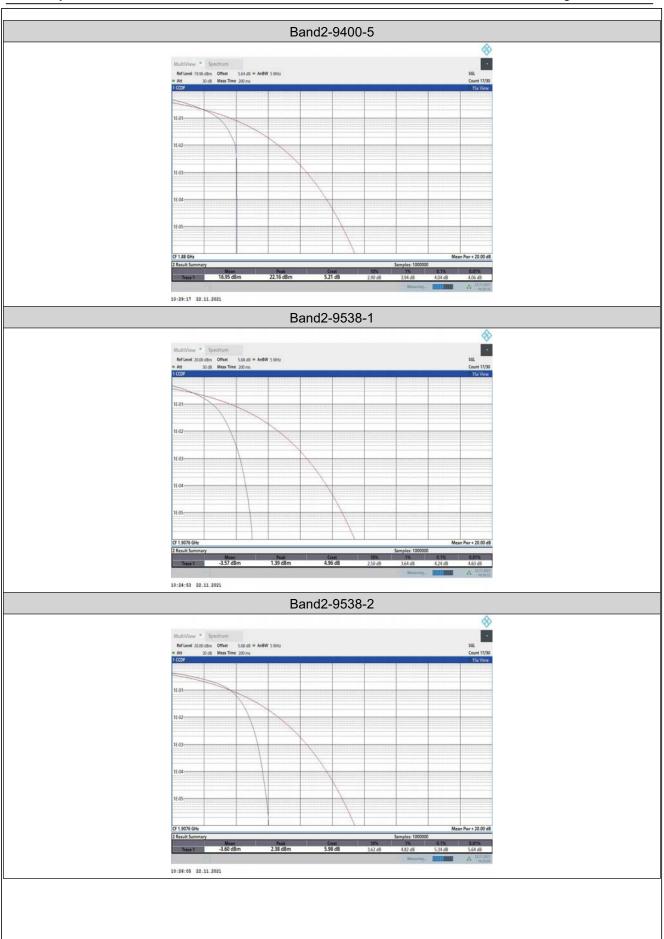


**Test Report No.: FCC2021-0035-RF2** Page 38 of 133



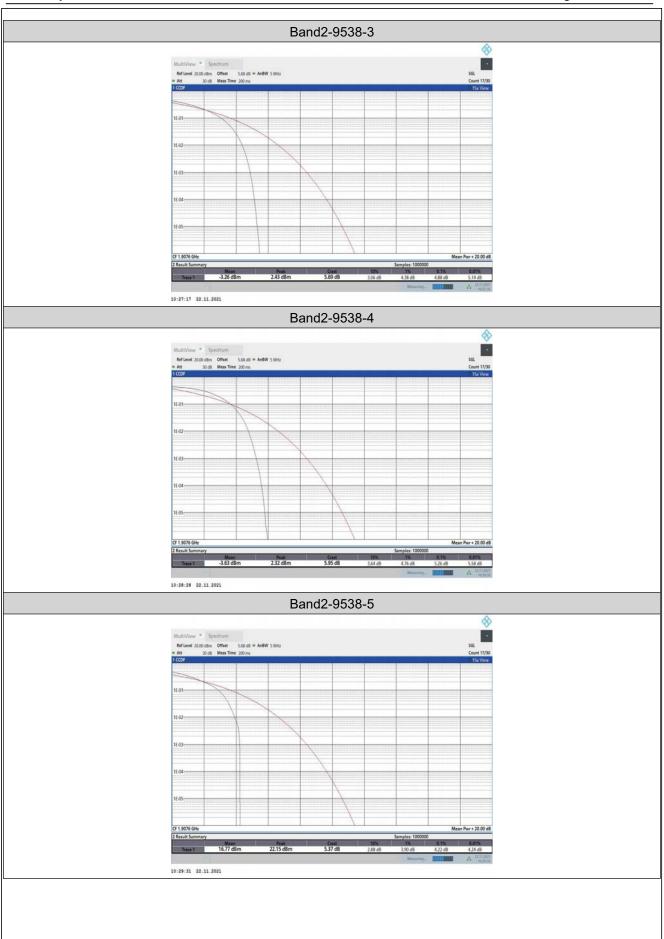


**Test Report No.: FCC2021-0035-RF2** Page 39 of 133





**Test Report No.: FCC2021-0035-RF2** Page 40 of 133





**Test Report No.: FCC2021-0035-RF2** Page 41 of 133

#### 5.3 Occupied Bandwidth

#### 5.3.1 Test Result(WCDMA)

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9262	4.109	4.690		PASS
Band2	9400	4.127	4.730		PASS
Band2	9538	4.136	4.740		PASS

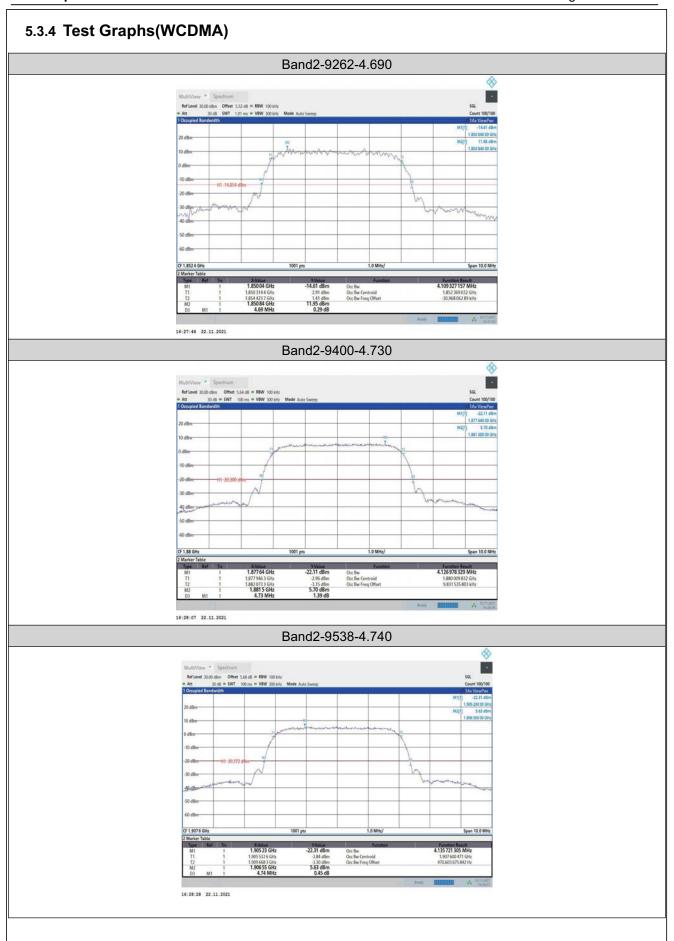
#### 5.3.2 Test Result(HSDPA)

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9262	1	4.129	4.700		PASS
Band2	9262	2	4.141	4.730		PASS
Band2	9262	3	4.151	4.740		PASS
Band2	9262	4	4.154	4.740		PASS
Band2	9400	1	4.124	4.710		PASS
Band2	9400	2	4.135	4.740		PASS
Band2	9400	3	4.133	4.740		PASS
Band2	9400	4	4.132	4.750		PASS
Band2	9538	1	4.136	4.690		PASS
Band2	9538	2	4.135	4.740		PASS
Band2	9538	3	4.143	4.760		PASS
Band2	9538	4	4.149	4.740		PASS

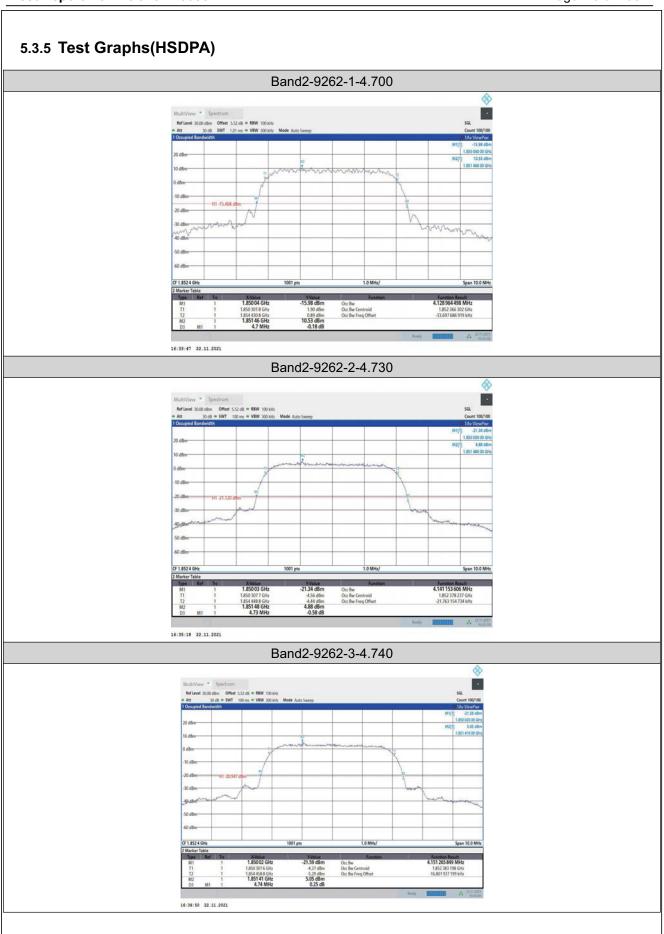
#### 5.3.3 Test Result(HSUPA)

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9262	1	4.147	4.740		PASS
Band2	9262	2	4.147	4.760		PASS
Band2	9262	3	4.149	4.750		PASS
Band2	9262	4	4.15	4.730		PASS
Band2	9262	5	4.146	4.730		PASS
Band2	9400	1	4.13	4.730		PASS
Band2	9400	2	4.131	4.730		PASS
Band2	9400	3	4.136	4.750		PASS
Band2	9400	4	4.12	4.700		PASS
Band2	9400	5	4.135	4.730		PASS
Band2	9538	1	4.165	4.770		PASS
Band2	9538	2	4.163	4.770		PASS
Band2	9538	3	4.164	4.750		PASS
Band2	9538	4	4.157	4.740		PASS
Band2	9538	5	4.138	4.720		PASS

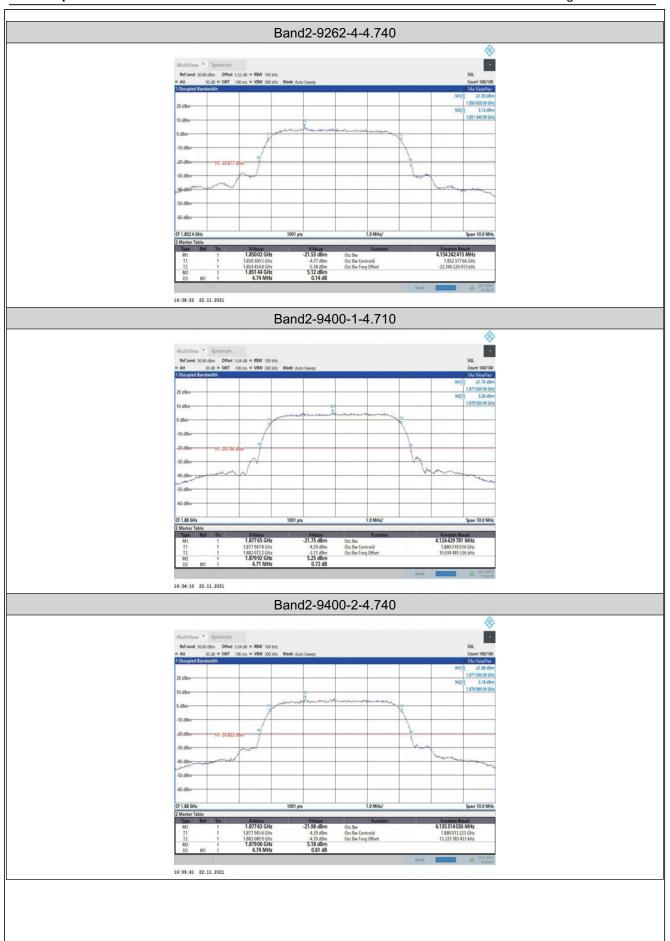
**Test Report No.: FCC2021-0035-RF2** Page 42 of 133



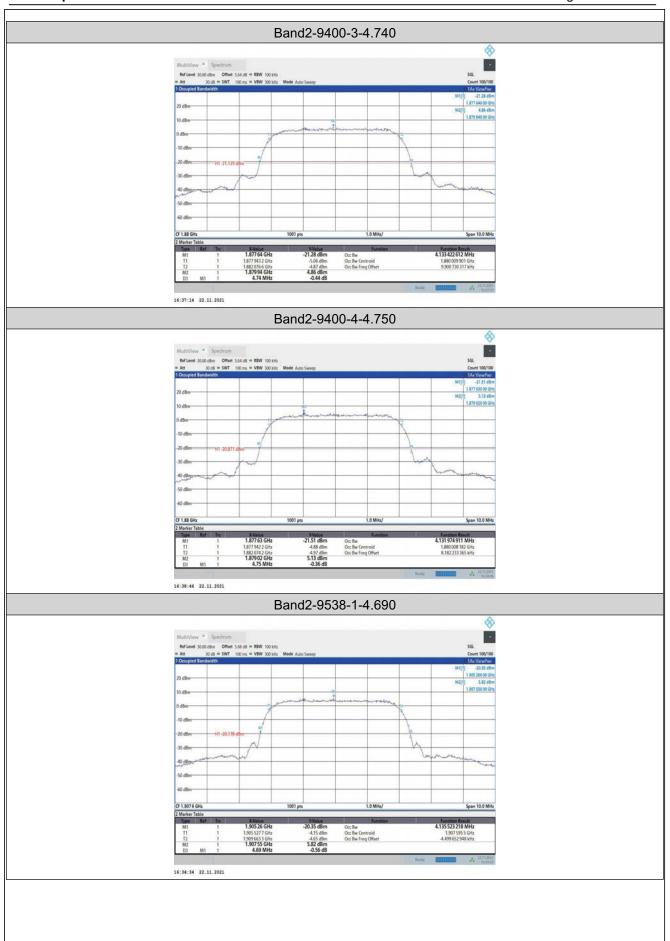
**Test Report No.: FCC2021-0035-RF2** Page 43 of 133



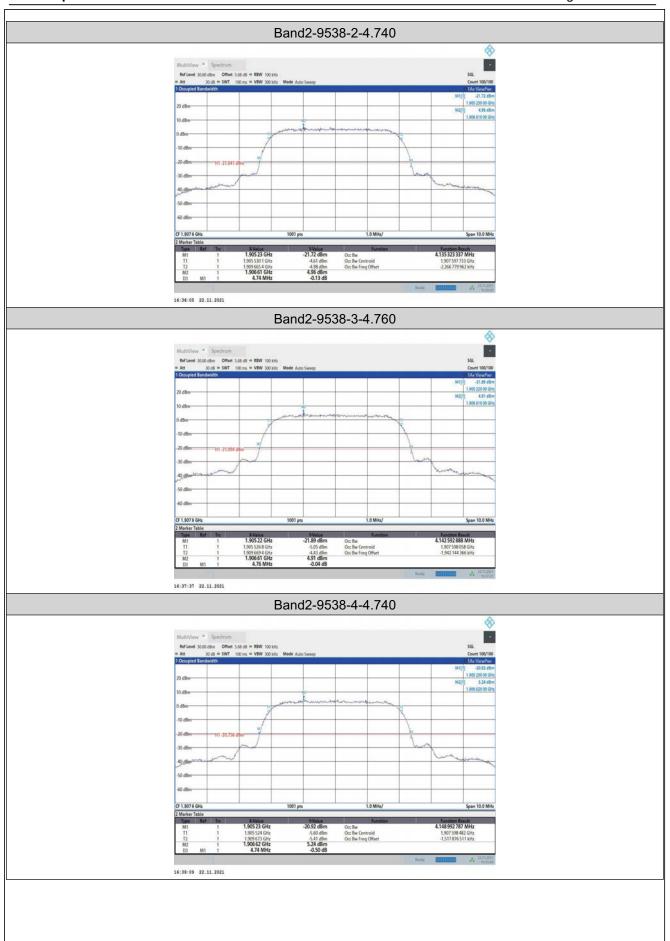
**Test Report No.: FCC2021-0035-RF2** Page 44 of 133



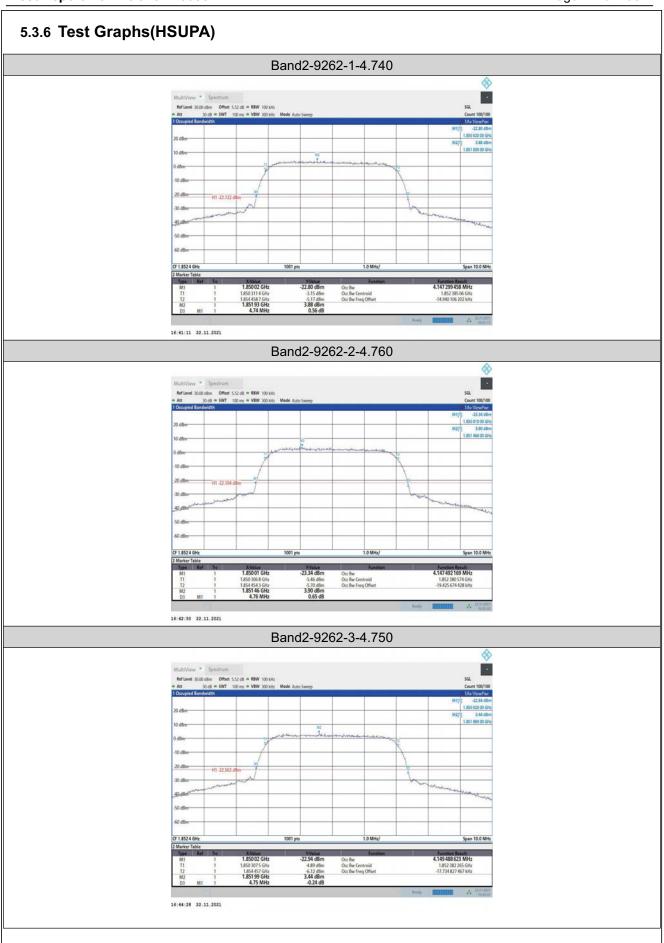
**Test Report No.: FCC2021-0035-RF2** Page 45 of 133



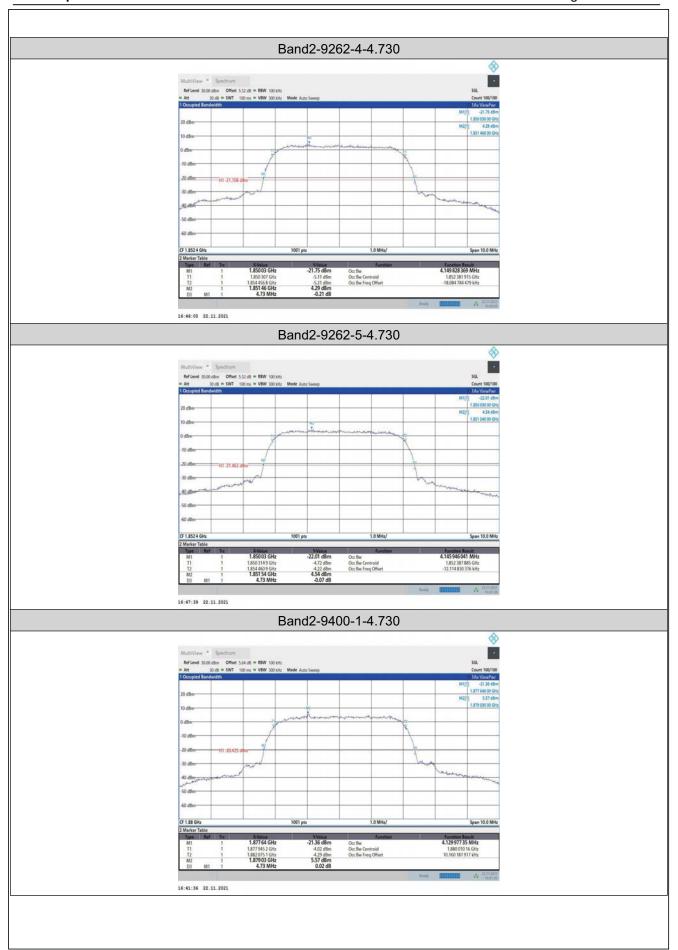
**Test Report No.: FCC2021-0035-RF2** Page 46 of 133



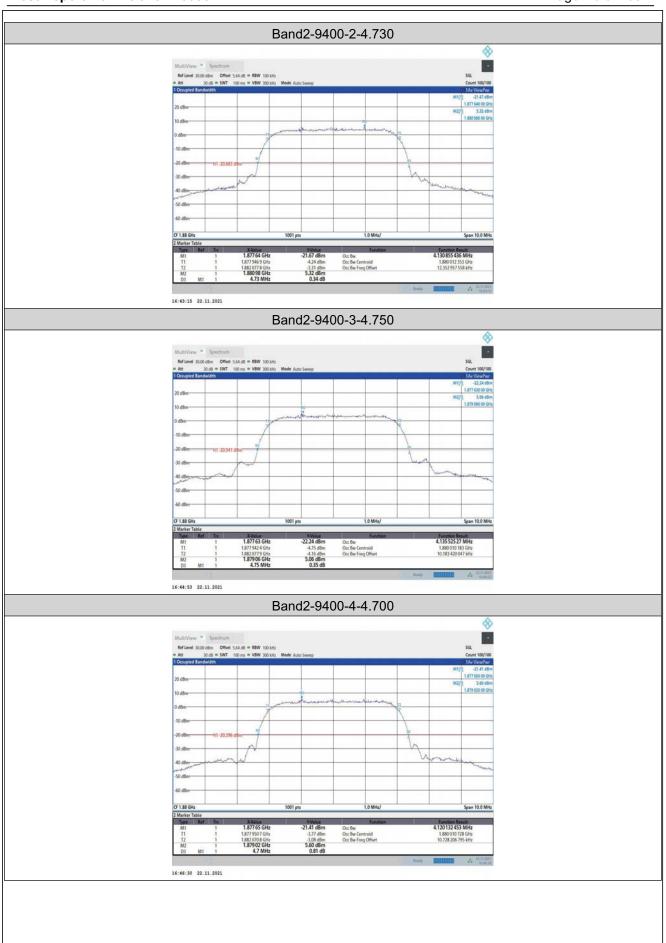
**Test Report No.: FCC2021-0035-RF2** Page 47 of 133



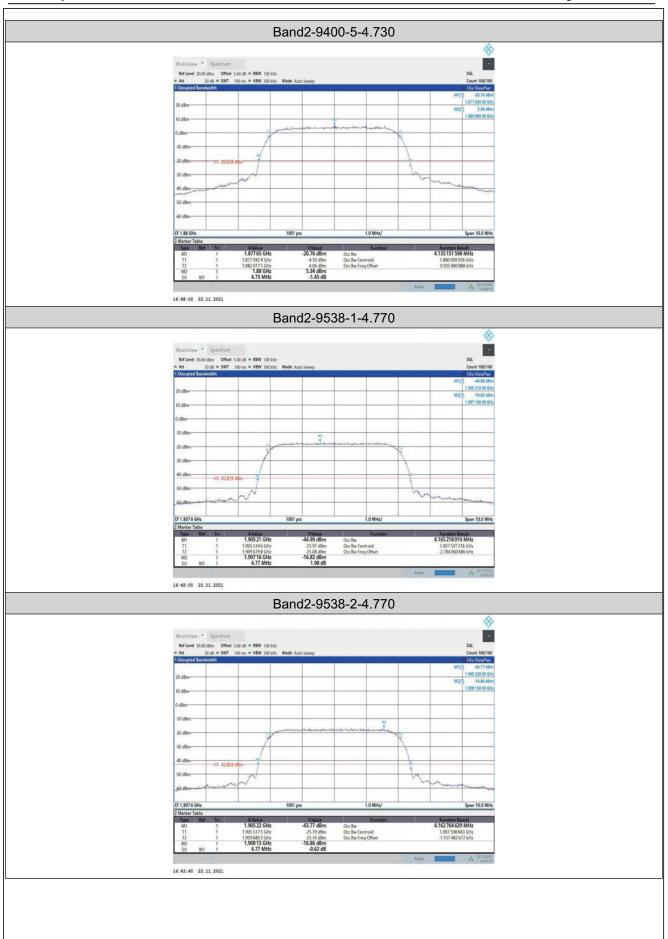
**Test Report No.: FCC2021-0035-RF2** Page 48 of 133



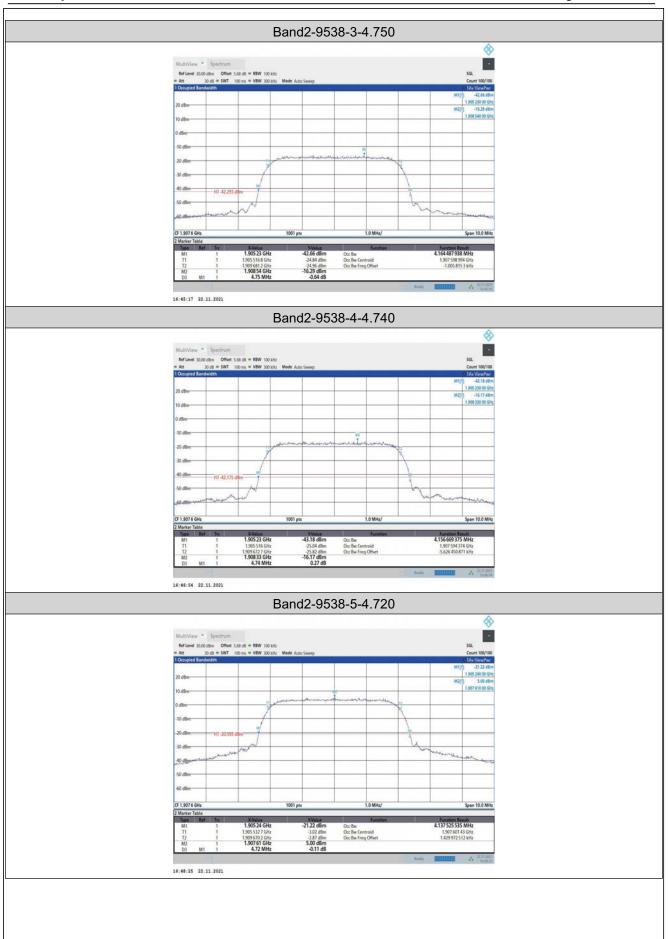
**Test Report No.: FCC2021-0035-RF2** Page 49 of 133



**Test Report No.: FCC2021-0035-RF2** Page 50 of 133



**Test Report No.: FCC2021-0035-RF2** Page 51 of 133





**Test Report No.: FCC2021-0035-RF2** Page 52 of 133

#### 5.4 Band Edge

#### 5.4.1 Test Result(WCDMA)

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1849.86	-20.04	-13	PASS
Band2	9538	1910.00	-26.66	-13	PASS

#### 5.4.2 Test Result(HSDPA)

Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1	1849.90	-22.27	-13	PASS
Band2	9262	2	1850.00	-25.74	-13	PASS
Band2	9262	3	1850.00	-24.60	-13	PASS
Band2	9262	4	1850.00	-24.91	-13	PASS
Band2	9538	1	1910.15	-27.39	-13	PASS
Band2	9538	2	1910.00	-25.66	-13	PASS
Band2	9538	3	1910.01	-25.45	-13	PASS
Band2	9538	4	1910.00	-24.44	-13	PASS

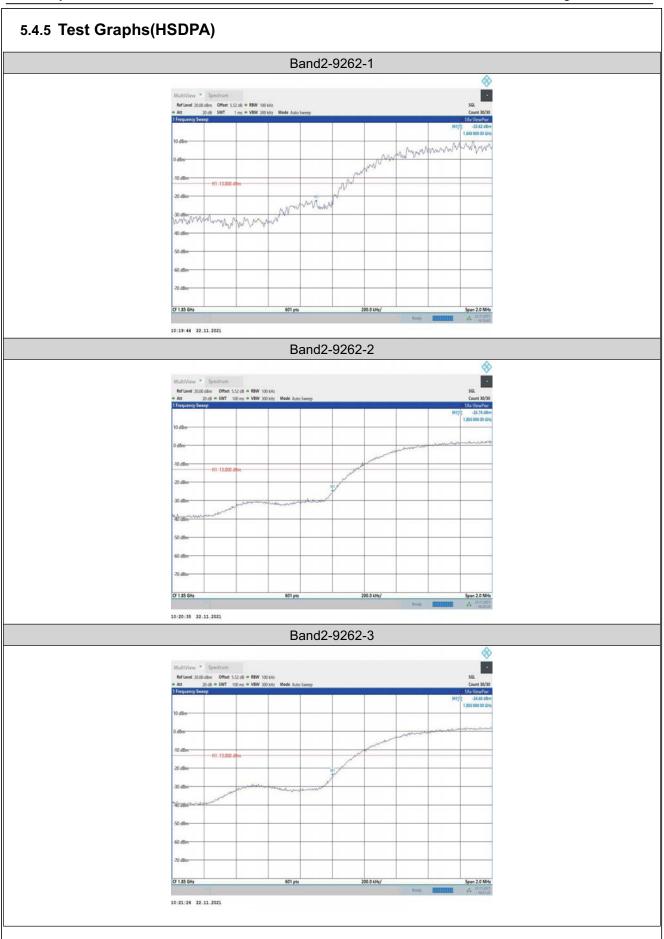
#### 5.4.3 Test Result(HSUPA)

Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1	1850.00	-17.68	-13	PASS
Band2	9262	2	1850.00	-25.33	-13	PASS
Band2	9262	3	1850.00	-26.62	-13	PASS
Band2	9262	4	1850.00	-25.07	-13	PASS
Band2	9262	5	1850.00	-26.00	-13	PASS
Band2	9538	1	1910.00	-25.87	-13	PASS
Band2	9538	2	1910.00	-26.82	-13	PASS
Band2	9538	3	1910.00	-24.55	-13	PASS
Band2	9538	4	1910.00	-27.23	-13	PASS
Band2	9538	5	1910.00	-25.84	-13	PASS

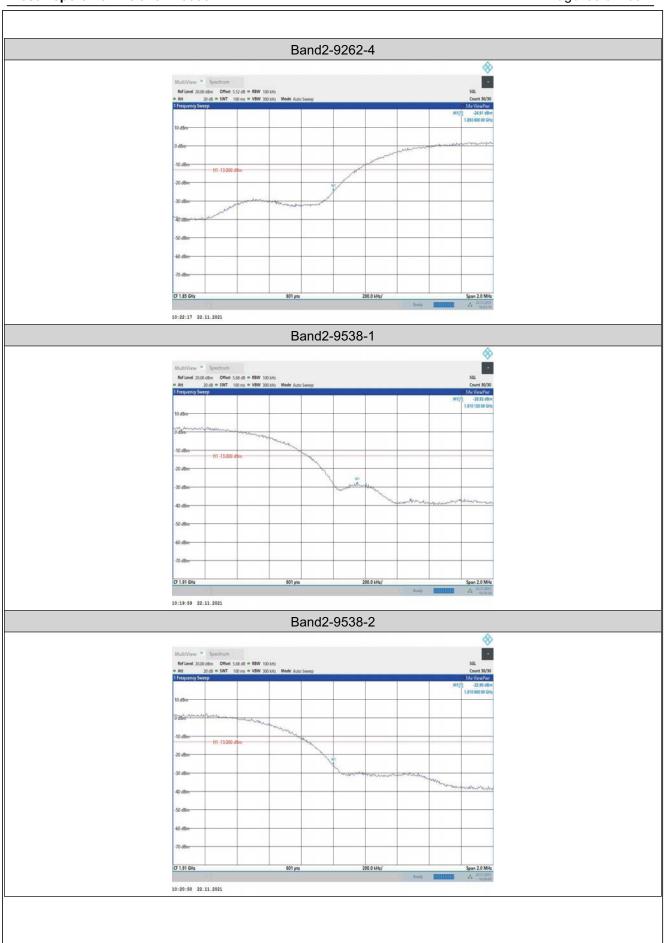
**Test Report No.: FCC2021-0035-RF2** Page 53 of 133



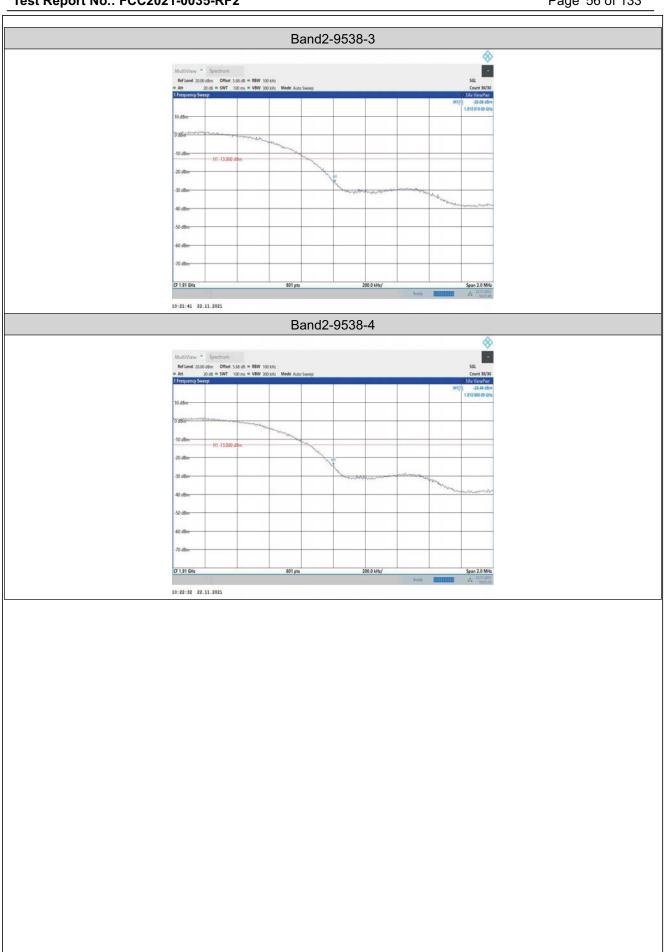
**Test Report No.: FCC2021-0035-RF2** Page 54 of 133



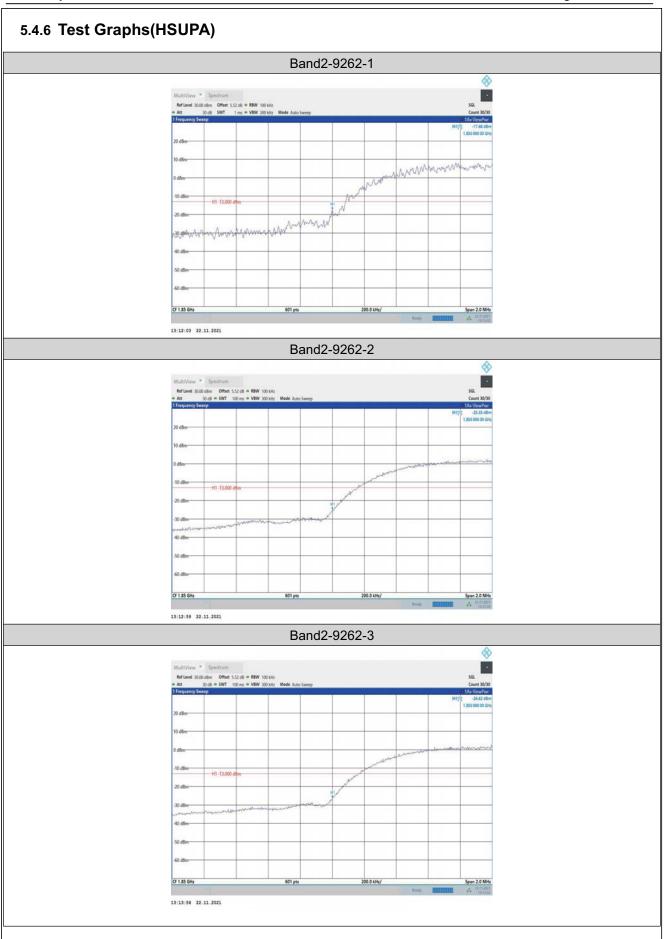
**Test Report No.: FCC2021-0035-RF2** Page 55 of 133



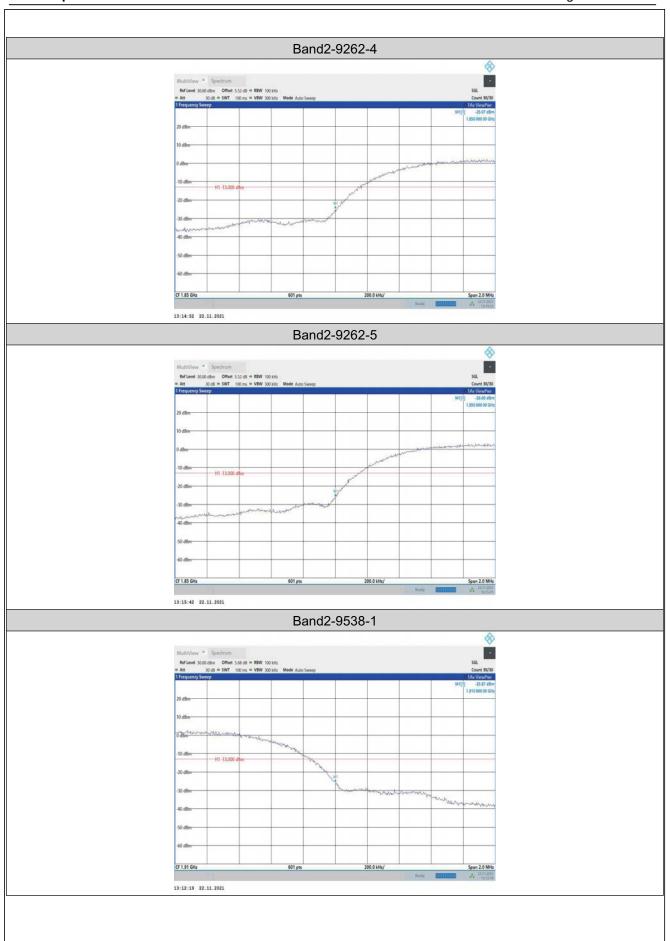
Test Report No.: FCC2021-0035-RF2 Page 56 of 133



**Test Report No.: FCC2021-0035-RF2** Page 57 of 133

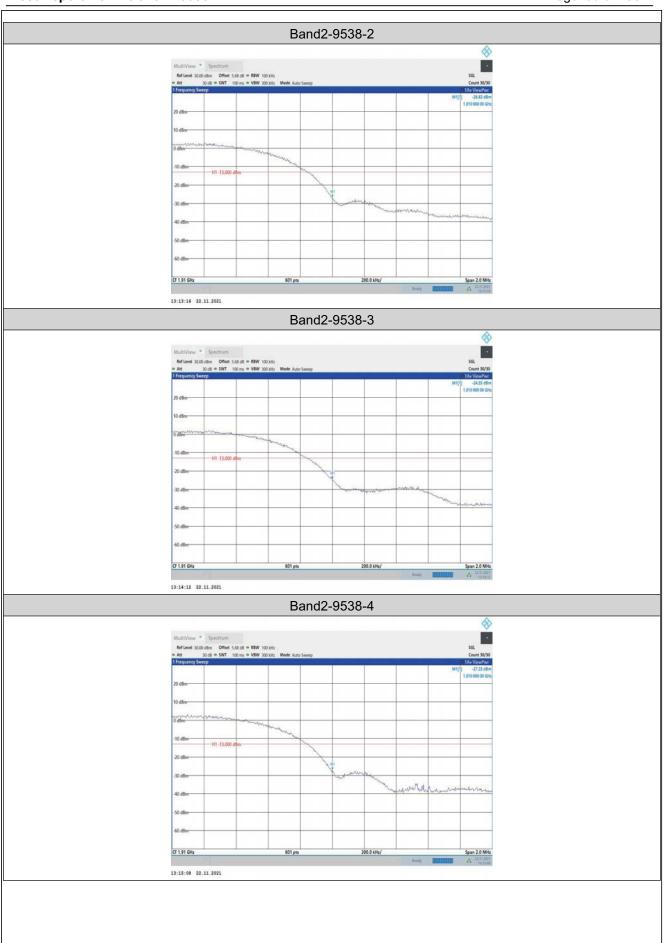


**Test Report No.: FCC2021-0035-RF2** Page 58 of 133



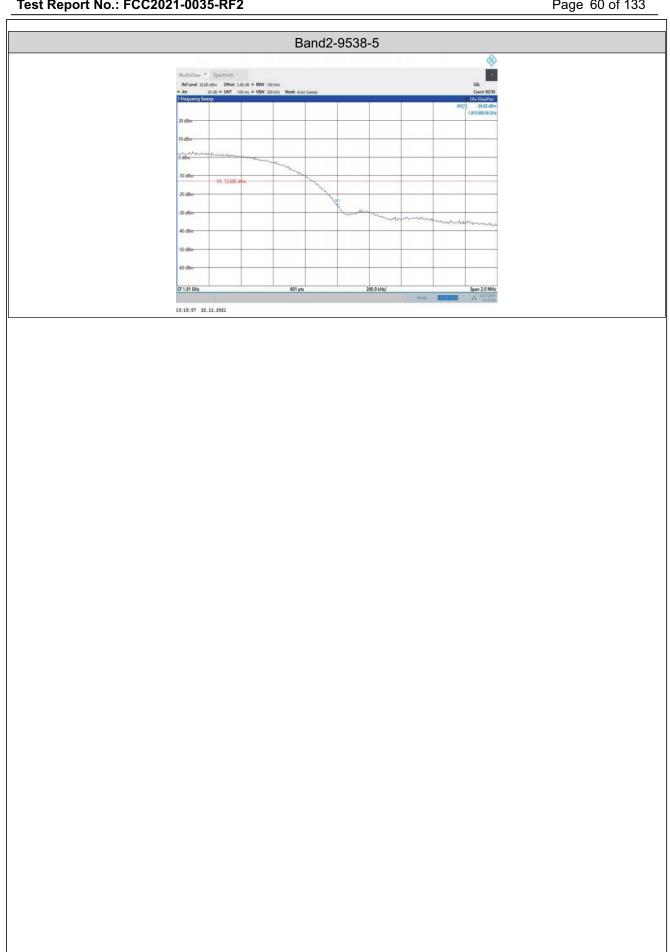


**Test Report No.: FCC2021-0035-RF2** Page 59 of 133





Test Report No.: FCC2021-0035-RF2 Page 60 of 133





**Test Report No.: FCC2021-0035-RF2** Page 61 of 133

# 5.5 Conducted Spurious Emission5.5.1 Test Result(WCDMA)

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	0.009~0.15MHz	0.13	-86.04	-43	PASS
Band2	9262	0.15~30MHz	28.81	-57.15	-23	PASS
Band2	9262	30~1000MHz	39.36	-43.61	-13	PASS
Band2	9262	1000~3000MHz	2991.33	-49.91	-13	PASS
Band2	9262	3000~10000MHz	3706.16	-53.4	-13	PASS
Band2	9262	10000~20000MHz	19155.19	-50.95	-13	PASS
Band2	9400	0.009~0.15MHz	0.13	-85.9	-43	PASS
Band2	9400	0.15~30MHz	24.98	-58.01	-23	PASS
Band2	9400	30~1000MHz	34.61	-43.57	-13	PASS
Band2	9400	1000~3000MHz	2983.4	-49.86	-13	PASS
Band2	9400	3000~10000MHz	3758.42	-52.49	-13	PASS
Band2	9400	10000~20000MHz	19072.2	-51.03	-13	PASS
Band2	9538	0.009~0.15MHz	0.01	-86.04	-43	PASS
Band2	9538	0.15~30MHz	25.01	-58.27	-23	PASS
Band2	9538	30~1000MHz	58.02	-44.39	-13	PASS
Band2	9538	1000~3000MHz	2955.67	-49.9	-13	PASS
Band2	9538	3000~10000MHz	3813.49	-49.03	-13	PASS
Band2	9538	10000~20000MHz	19185.53	-51.03	-13	PASS

#### 5.5.2 Test Result(HSDPA)

Band	Channel	SubTest	Frequency Range	Frequency	Result	Limit	Verdict
Bana		Oub icst	(Mhz)	(dBm)	(dBm)	(dBm)	
Band2	9262	1	0.15~30MHz	26.16	-57.18	-23	PASS
Band2	9262	1	30~1000MHz	32.54	-43.37	-13	PASS
Band2	9262	1	1000~3000MHz	2992.07	-49.76	-13	PASS
Band2	9262	1	3000~10000MHz	3706.16	-54.02	-13	PASS
Band2	9262	1	10000~20000MHz	19113.86	-51.02	-13	PASS
Band2	9262	1	0.009~0.15MHz	0.13	-85.79	-43	PASS
Band2	9262	2	1000~3000MHz	2991.6	-49.77	-13	PASS
Band2	9262	2	0.009~0.15MHz	0.13	-86.33	-43	PASS
Band2	9262	2	3000~10000MHz	3706.39	-53.87	-13	PASS
Band2	9262	2	30~1000MHz	34.64	-44.71	-13	PASS
Band2	9262	2	0.15~30MHz	28.79	-58.24	-23	PASS
Band2	9262	2	10000~20000MHz	19089.53	-51	-13	PASS
Band2	9262	3	0.15~30MHz	24.3	-57.74	-23	PASS
Band2	9262	3	30~1000MHz	41.3	-44.6	-13	PASS
Band2	9262	3	10000~20000MHz	19103.2	-51.03	-13	PASS
Band2	9262	3	0.009~0.15MHz	0.13	-86.58	-43	PASS
Band2	9262	3	3000~10000MHz	3706.39	-54.16	-13	PASS
Band2	9262	3	1000~3000MHz	2988.2	-49.8	-13	PASS
Band2	9262	4	0.15~30MHz	27.9	-57.98	-23	PASS
Band2	9262	4	30~1000MHz	79.23	-43.94	-13	PASS
Band2	9262	4	1000~3000MHz	2974.6	-49.79	-13	PASS
Band2	9262	4	10000~20000MHz	19086.53	-51.12	-13	PASS
Band2	9262	4	0.009~0.15MHz	0.13	-85.89	-43	PASS
Band2	9262	4	3000~10000MHz	3706.39	-54.07	-13	PASS
Band2	9400	1	10000~20000MHz	19124.2	-50.9	-13	PASS
Band2	9400	1	3000~10000MHz	3758.19	-52.8	-13	PASS



**Test Report No.: FCC2021-0035-RF2** Page 62 of 133

Band2	9400	1	1000~3000MHz	2962.87	-49.82	-13	PASS
Band2	9400	1	30~1000MHz	35.13	-44.59	-13	PASS
Band2	9400	1	0.009~0.15MHz	0.01	-85.92	-43	PASS
Band2	9400	1	0.15~30MHz	29.14	-58.21	-23	PASS
Band2	9400	2	0.15~30MHz	28.34	-57.99	-23	PASS
Band2	9400	2	30~1000MHz	32.99	-44.63	-13	PASS
Band2	9400	2	1000~3000MHz	2414.33	-49.79	-13	PASS
Band2	9400	2	3000~10000MHz	3758.66	-53.92	-13	PASS
Band2	9400	2	0.009~0.15MHz	0.01	-86.19	-43	PASS
Band2	9400	2	10000~20000MHz	19078.86	-51.1	-13	PASS
Band2	9400	3	1000~3000MHz	2415.4	-49.89	-13	PASS
Band2	9400	3	30~1000MHz	39.68	-44.38	-13	PASS
Band2	9400	3	0.15~30MHz	22.57	-58.17	-23	PASS
Band2	9400	3	3000~10000MHz	3761.69	-53.98	-13	PASS
Band2	9400	3	0.009~0.15MHz	0.13	-84.36	-43	PASS
Band2	9400	3	10000~20000MHz	19102.86	-50.98	-13	PASS
Band2	9400	4	0.009~0.15MHz	0.01	-84.87	-43	PASS
Band2	9400	4	0.15~30MHz	15.68	-58.09	-23	PASS
Band2	9400	4	30~1000MHz	65.49	-44.51	-13	PASS
Band2	9400	4	1000~3000MHz	2993.2	-49.62	-13	PASS
Band2	9400	4	3000~10000MHz	3761.69	-53.84	-13	PASS
Band2	9400	4	10000~20000MHz	19052.86	-51	-13	PASS
Band2	9538	1	10000~20000MHz	19126.86	-51	-13	PASS
Band2	9538	1	0.009~0.15MHz	0.01	-83.45	-43	PASS
Band2	9538	1	3000~10000MHz	3813.49	-49.94	-13	PASS
Band2	9538	1	0.15~30MHz	29.78	-57.68	-23	PASS
Band2	9538	1	1000~3000MHz	2981.4	-49.7	-13	PASS
Band2	9538	1	30~1000MHz	30.02	-43.89	-13	PASS
Band2	9538	2	0.15~30MHz	26.67	-58.05	-23	PASS
Band2	9538	2	30~1000MHz	35.35	-43.99	-13	PASS
Band2	9538	2	1000~3000MHz	2972.07	-49.84	-13	PASS
Band2	9538	2	10000~20000MHz	19096.53	-50.98	-13	PASS
Band2	9538	2	3000~10000MHz	3813.72	-49.85	-13	PASS
Band2	9538	2	0.009~0.15MHz	0.13	-86.34	-43	PASS
Band2	9538	3	30~1000MHz	35.16	-44.27	-13	PASS
Band2	9538	3	10000~20000MHz	19055.53	-51.15	-13	PASS
Band2	9538	3	1000~3000MHz	2966.47	-49.77	-13	PASS
Band2	9538	3	0.15~30MHz	23.86	-57.88	-23	PASS
Band2	9538	3	0.009~0.15MHz	0.13	-86.14	-43	PASS
Band2	9538	3	3000~10000MHz	3813.26	-49.98	-13	PASS
Band2	9538	4	10000~20000MHz	19075.53	-50.93	-13	PASS
Band2	9538	4	0.009~0.15MHz	0.13	-85.64	-43	PASS
Band2	9538	4	0.15~30MHz	24.89	-58.48	-23	PASS
Band2	9538	4	30~1000MHz	35.09	-43.67	-13	PASS
Band2	9538	4	1000~3000MHz	2997.6	-49.45	-13	PASS
Band2	9538	4	3000~10000MHz	3813.72	-50.18	-13	PASS



**Test Report No.: FCC2021-0035-RF2** Page 63 of 133

#### 5.5.3 Test Result(HSUPA)

Band	Channel	SubTest	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	1	0.15~30MHz	28.08	-57.28	-23	PASS
Band2	9262	1	30~1000MHz	227.18	-44.37	-13	PASS
Band2	9262	1	1000~3000MHz	2414.53	-49.64	-13	PASS
Band2	9262	1	3000~10000MHz	3704.06	-51.14	-13	PASS
Band2	9262	1	10000~20000MHz	19066.53	-50.87	-13	PASS
Band2	9262	1	0.009~0.15MHz	0.13	-85.89	-43	PASS
Band2	9262	2	1000~3000MHz	2997.47	-49.69	-13	PASS
Band2	9262	2	3000~10000MHz	3703.59	-52.65	-13	PASS
Band2	9262	2	30~1000MHz	74.31	-44.9	-13	PASS
Band2	9262	2	0.15~30MHz	30	-57.3	-23	PASS
Band2	9262	2	0.009~0.15MHz	0.13	-85.06	-43	PASS
Band2	9262	2	10000~20000MHz	19070.53	-50.9	-13	PASS
Band2	9262	3	10000~20000MHz	19180.86	-51.01	-13	PASS
Band2	9262	3	0.15~30MHz	28.41	-58.18	-23	PASS
Band2	9262	3	30~1000MHz	33.19	-44.71	-13	PASS
Band2	9262	3	0.009~0.15MHz	0.13	-85.4	-43	PASS
Band2	9262	3	3000~10000MHz	3704.99	-51.78	-13	PASS
Band2	9262	3	1000~3000MHz	2944.4	-49.85	-13	PASS
Band2	9262	4	0.009~0.15MHz	0.13	-85.88	-43	PASS
Band2	9262	4	0.15~30MHz	29.94	-57.98	-23	PASS
Band2	9262	4	30~1000MHz	34.06	-44.35	-13	PASS
Band2	9262	4	1000~3000MHz	2990.13	-49.75	-13	PASS
Band2	9262	4	3000~10000MHz	3703.59	-52.36	-13	PASS
Band2	9262	4	10000~20000MHz	19185.86	-51.02	-13	PASS
Band2	9262	5	1000~3000MHz	2981.87	-49.82	-13	PASS
Band2	9262	5	10000~20000MHz	19094.2	-50.97	-13	PASS
Band2	9262	5	3000~10000MHz	3703.36	-50.69	-13	PASS
Band2	9262	5	0.009~0.15MHz	0.01	-85.85	-43	PASS
Band2	9262	5	30~1000MHz	38.91	-44.52	-13	PASS
Band2	9262	5	0.15~30MHz	25.92	-57.46	-23	PASS
Band2	9400	1	0.15~30MHz	29.22	-57.24	-23	PASS
Band2	9400	1	0.009~0.15MHz	0.13	-85.62	-43	PASS
Band2	9400	1	30~1000MHz	32.38	-43.9	-13	PASS
Band2	9400	1	1000~3000MHz	2980.8	-49.74	-13	PASS
Band2	9400	1	3000~10000MHz	3758.42	-49.55	-13	PASS
Band2	9400	1	10000~20000MHz	19046.87	-50.88	-13	PASS
Band2	9400	2	1000~3000MHz	2995.4	-49.68	-13	PASS
Band2	9400	2	3000~10000MHz	3761.69	-49.29	-13	PASS
Band2	9400	2	30~1000MHz	32.64	-44.75	-13	PASS
Band2	9400	2	0.15~30MHz	29.5	-57.32	-23	PASS
Band2	9400	2	0.009~0.15MHz	0.13	-86.51	-43	PASS
Band2	9400	2	10000~20000MHz	19073.53	-50.9	-13	PASS
Band2	9400	3	30~1000MHz	34.64	-43.92	-13	PASS
Band2	9400	3	0.009~0.15MHz	0.13	-85.66	-43	PASS
Band2	9400	3	1000~3000MHz	2995.87	-49.7	-13	PASS
Band2	9400	3	3000~10000MHz	3761.69	-49.38	-13	PASS
Band2	9400	3	10000~20000MHz	19115.86	-50.7	-13	PASS
Band2	9400	3	0.15~30MHz	29.37	-58.42	-23	PASS
Band2	9400	4	0.15~30MHz	27.1	-58.44	-23	PASS
Band2	9400	4	10000~20000MHz	19163.53	-50.88	-13	PASS
Danaz	J-00		13000 20000WIIIZ	10100.00		10	17.00



**Test Report No.: FCC2021-0035-RF2** Page 64 of 133

Band2	9400	4	3000~10000MHz	3761.69	-49.5	-13	PASS
Band2	9400	4	30~1000MHz	184.79	-44.54	-13	PASS
Band2	9400	4	0.009~0.15MHz	0.13	-85.29	-43	PASS
Band2	9400	4	1000~3000MHz	2998.8	-49.71	-13	PASS
Band2	9400	5	10000~20000MHz	19063.86	-50.99	-13	PASS
Band2	9400	5	0.15~30MHz	26.82	-58.49	-23	PASS
Band2	9400	5	30~1000MHz	36.19	-44.25	-13	PASS
Band2	9400	5	1000~3000MHz	2985.8	-49.75	-13	PASS
Band2	9400	5	3000~10000MHz	3761.92	-49.41	-13	PASS
Band2	9400	5	0.009~0.15MHz	0.13	-85.95	-43	PASS
Band2	9538	1	0.009~0.15MHz	0.13	-85.79	-43	PASS
Band2	9538	1	0.15~30MHz	28.74	-57.98	-23	PASS
Band2	9538	1	30~1000MHz	35.38	-44.24	-13	PASS
Band2	9538	1	1000~3000MHz	2941.2	-49.77	-13	PASS
Band2	9538	1	3000~10000MHz	7497.47	-55.48	-13	PASS
Band2	9538	1	10000~20000MHz	19083.2	-50.98	-13	PASS
Band2	9538	2	1000~3000MHz	2967.2	-49.86	-13	PASS
Band2	9538	2	10000~20000MHz	19096.2	-50.92	-13	PASS
Band2	9538	2	3000~10000MHz	7480.43	-55.57	-13	PASS
Band2	9538	2	30~1000MHz	35.32	-44.38	-13	PASS
Band2	9538	2	0.15~30MHz	25.23	-58.3	-23	PASS
Band2	9538	2	0.009~0.15MHz	0.13	-84.85	-43	PASS
Band2	9538	3	3000~10000MHz	7486.73	-55.29	-13	PASS
Band2	9538	3	0.15~30MHz	29.59	-58.01	-23	PASS
Band2	9538	3	10000~20000MHz	19079.2	-50.91	-13	PASS
Band2	9538	3	30~1000MHz	77.71	-44.66	-13	PASS
Band2	9538	3	1000~3000MHz	2461.93	-49.63	-13	PASS
Band2	9538	3	0.009~0.15MHz	0.13	-84.1	-43	PASS
Band2	9538	4	0.009~0.15MHz	0.13	-87.03	-43	PASS
Band2	9538	4	10000~20000MHz	19108.53	-50.95	-13	PASS
Band2	9538	4	3000~10000MHz	7489.3	-55.41	-13	PASS
Band2	9538	4	1000~3000MHz	2994.33	-49.75	-13	PASS
Band2	9538	4	0.15~30MHz	28.1	-58.39	-23	PASS
Band2	9538	4	30~1000MHz	78.74	-44.63	-13	PASS
Band2	9538	5	10000~20000MHz	19086.86	-51	-13	PASS
Band2	9538	5	0.009~0.15MHz	0.13	-86.1	-43	PASS
Band2	9538	5	0.15~30MHz	28.88	-57.41	-23	PASS
Band2	9538	5	30~1000MHz	34.25	-44.54	-13	PASS
Band2	9538	5	1000~3000MHz	2997.2	-49.73	-13	PASS
Band2	9538	5	3000~10000MHz	3813.49	-45.94	-13	PASS

**Test Report No.: FCC2021-0035-RF2** Page 65 of 133

