

FCC TEST REPORT (PART 24)

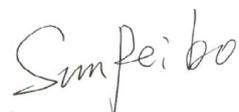
Applicant:	SHARP CORPORATION
Address:	1 Takumi-cho, Sakai-ku, Sakai City, Osaka 590-8522, Japan

Manufacturer or Supplier:	SHARP CORPORATION
Address:	1 Takumi-cho, Sakai-ku, Sakai City, Osaka 590-8522, Japan
Product:	Smart Phone
Brand Name:	SHARP
FCC ID:	APYHRO00336
Date of tests:	Mar. 19, 2025 ~ Apr.28, 2025

The tests have been carried out according to the requirements of the following standard:

- FCC PART 24, Subpart E**
 FCC PART 2
 ANSI/TIA/EIA-603-D
 ANSI/TIA/EIA-603-E
 ANSI C63.26-2015

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Hanwen Xu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
 Date: Apr.28, 2025	 Date: Apr.28, 2025

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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BUREAU
VERITAS

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2504150110RF02	Original release	Apr.28, 2025



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	RESULT
§2.1046	Conducted Output Power	Compliance
§24.232(c)	Equivalent Isotropic Radiated Power	Compliance
§2.1055 §24.235	Frequency Stability	Compliance
§2.1049	Occupied Bandwidth	Compliance
§24.232(d)	Peak to average ratio	Compliance
§24.238(a)(b)	Band Edge Measurements	Compliance
§2.1051 §24.238(a)(b)	Conducted Spurious Emissions	Compliance
§2.1053 §24.238(a)(b)	Radiated Spurious Emissions	Compliance

*Test Lab Information Reference

Lab A:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

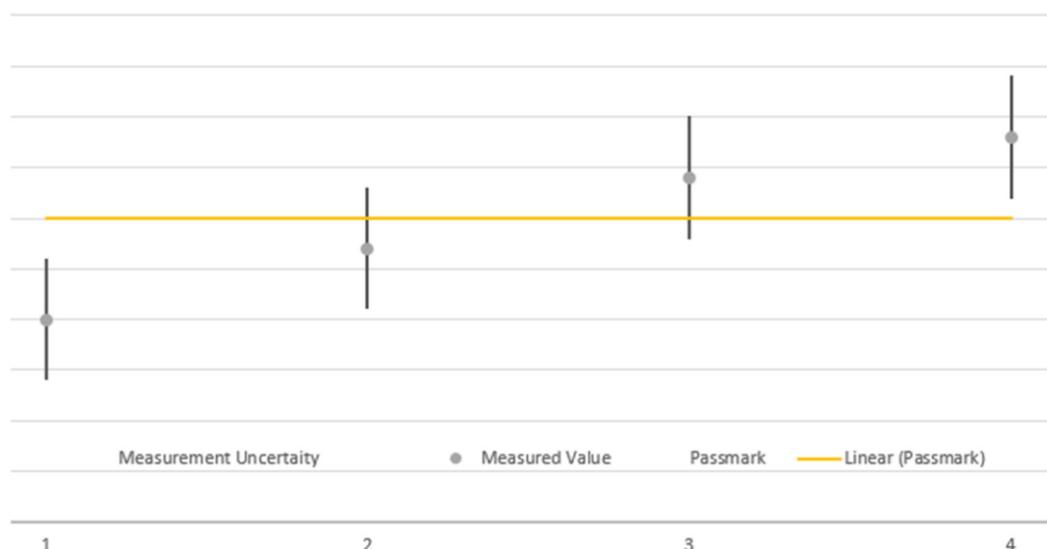
The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 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
Frequency Stability	± 76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB
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.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.



1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,23	Aug.29,25
Pre-Amplifier	R&S	SCU08F1	101028	Jan.22,24	Jan.21,26
Vector Signal Generator	R&S	SMBV100B	102176	Mar.29,24	Mar.28,26
Signal Generator	R&S	SMB100A	182185	Mar.29,24	Mar.28,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Mar.28,24	Mar.27,26
EMI TEST Receiver	R&S	ESW44	101973	Mar.28,24	Mar.27,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Dec.26,23	Dec.25,25
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,23	Aug.21,25
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Jul.15,24	Jul.14,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,23	Aug.21,25
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,25	Feb.22,27
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
6DB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	N/A	N/A
DC Source	HYELEC	HY3010B	551016	Aug.31,23	Aug.30,25
Hygrothermograph	DELI	20210528	SZ014	Sep.06,23	Sep.05,25
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.27,25	Apr.26,26
CABLE	R&S	W12.14	N/A	Apr.27,25	Apr.26,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.27,25	Apr.26,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.27,25	Apr.26,26
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26



Test Report No.: PSU-NQN2504150110RF02

- NOTE:**
1. The calibration interval of the above test instruments is 12 / 24/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Smart Phone	
BRAND NAME*	SHARP	
NOMINAL VOLTAGE*	4.0Vdc(adapter or host equipment) 3.89Vdc (Li-ion, battery)	
MODULATION TYPE*	GSM/EDGE	GMSK
	WCDMA	HSDPA、HSUPA、HSPA+
	LTE	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	GSM, EDGE	1850.2MHz ~ 1909.8MHz
	WCDMA II	1852.4MHz ~ 1907.6MHz
	LTE Band 2 Channel Bandwidth: 1.4MHz	1850.7MHz ~ 1909.3MHz
	LTE Band 2 Channel Bandwidth: 3MHz	1851.5MHz ~ 1908.5MHz
	LTE Band 2 Channel Bandwidth: 5MHz	1852.5MHz ~ 1907.5MHz
	LTE Band 2 Channel Bandwidth: 10MHz	1855.0MHz ~ 1905.0MHz
	LTE Band 2 Channel Bandwidth: 15MHz	1857.5MHz ~ 1902.5MHz
	LTE Band 2 Channel Bandwidth: 20MHz	1860.0MHz ~ 1900.0MHz
	MAX. EIRP POWER	GSM
WCDMA		115mW
LTE Band 2 Channel Bandwidth: 1.4MHz		117mW
LTE Band 2 Channel Bandwidth: 3MHz		119mW
LTE Band 2 Channel Bandwidth: 5MHz		123mW
LTE Band 2 Channel Bandwidth: 10MHz		117mW
LTE Band 2 Channel Bandwidth: 15MHz		127mW
LTE Band 2 Channel Bandwidth: 20MHz		125mW
EMISSION DESIGNATOR		GSM
	WCDMA II	4M17F9W



	LTE Band 2 Channel Bandwidth: 1.4MHz	QPSK:1M11G7D
		16QAM:1M13W7D
		64QAM:1M13W7D
	LTE Band 2 Channel Bandwidth: 3MHz	QPSK:2M75G7D
		16QAM:2M75W7D
		64QAM:2M75W7D
EMISSION DESIGNATOR	LTE Band 2 Channel Bandwidth: 5MHz	QPSK:4M52G7D
		16QAM:4M53W7D
		64QAM:4M53W7D
	LTE Band 2 Channel Bandwidth: 10MHz	QPSK:9M00G7D
		16QAM:9M04W7D
		64QAM:9M04W7D
	LTE Band 2 Channel Bandwidth: 15MHz	QPSK:13M5G7D
		16QAM:13M5W7D
		64QAM:13M5W7D
	LTE Band 2 Channel Bandwidth: 20MHz	QPSK:18M1G7D
		16QAM:18M1W7D
		64QAM:18M1W7D
ANTENNA TYPE*	PIFA Antenna with -1.9dBi gain for GSM1900/ WCDMA II/LTE B2	
HW VERSION*	DVT	
SW VERSION*	A2270	
I/O PORTS*	Refer to user's manual	
EXTREME TEMPERATURE*	5~35°C	
EXTREME VOLTAGE*	3.7V~4V	



NOTE:

1. *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
GSM/GPRS/EDGE	1TX/1RX
WCDMA	1TX/2RX
LTE	1TX/2RX

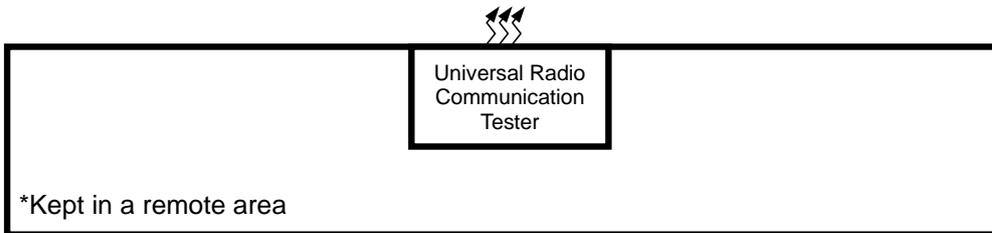
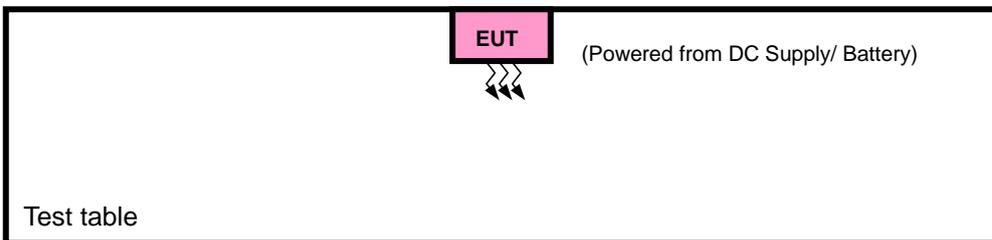
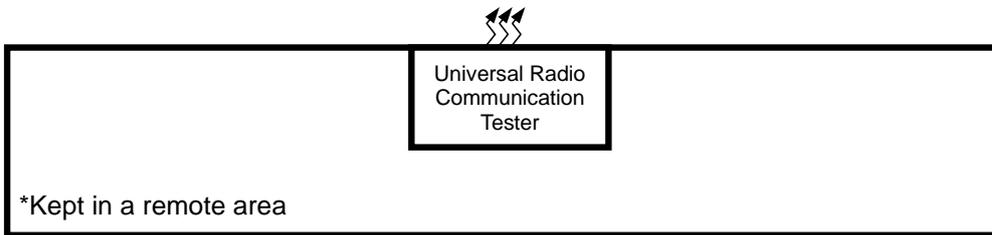
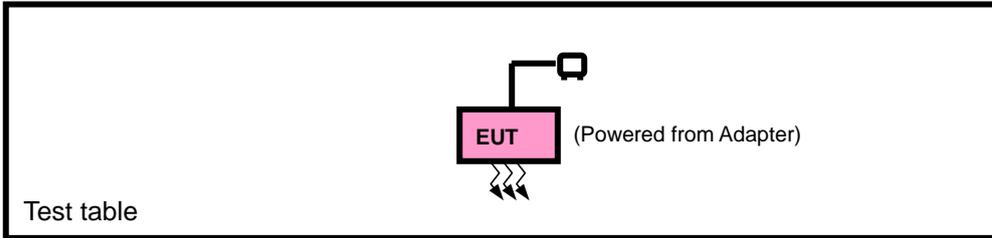
4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
5. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.
6. List of Accessory:

Battery Information	Battery Type	Li-Lon
	Manufacturer	Ningde Amperex Technology Limited
	Model Number	UBATIA319AFN2
	Capacity	4880 mAh
	Nominal Voltage	3.89V



2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST





2.3 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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC Source	HYELEC	HY3010B	551016	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m

2.4 TEST ITEM AND TEST CONFIGURATION

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. The worst case in EIRP and radiated emission was found when positioned on X-plane for GSM/EDGE/ LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with GSM or WCDMA or LTE link
B	EUT + DC Supply with GSM or WCDMA or LTE link

GSM MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	512 to 810	512, 661, 810	GSM,EDGE
B	FREQUENCY STABILITY	512 to 810	512, 661, 810	GSM,EDGE
A	OCCUPIED BANDWIDTH	512 to 810	512, 661, 810	GSM,EDGE
A	PEAK TO AVERAGE RATIO	512 to 810	512, 661, 810	GSM,EDGE
A	BAND EDGE	512 to 810	512, 810	GSM,EDGE
A	CONDUCTED EMISSION	512 to 810	512, 661, 810	GSM,EDGE
A	RADIATED EMISSION	512 to 810	512, 661, 810	GSM,EDGE



WCDMA II

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	9262 to 9538	9262, 9400, 9538	WCDMA
B	FREQUENCY STABILITY	9262 to 9538	9262, 9400, 9538	WCDMA
A	OCCUPIED BANDWIDTH	9262 to 9538	9262, 9400, 9538	WCDMA
A	PEAK TO AVERAGE RATIO	9262 to 9538	9262, 9400, 9538	WCDMA
A	BAND EDGE	9262 to 9538	9262, 9538	WCDMA
A	CONDUCTED EMISSION	9262 to 9538	9262, 9400, 9538	WCDMA
A	RADIATED EMISSION	9262 to 9538	9262, 9400, 9538	WCDMA

LTE BAND 2 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION
A	EIRP	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM,64QAM
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM,64QAM
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM,64QAM
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM,64QAM
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM,64QAM
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM,64QAM
B	FREQUENCY STABILITY	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM,64QAM
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM,64QAM
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM,64QAM
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM,64QAM
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM,64QAM
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM,64QAM
A	OCCUPIED BANDWIDTH	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM,64QAM
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM,64QAM
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM,64QAM
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM,64QAM
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM,64QAM
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM,64QAM
A	PEAK TO AVERAGE RATIO	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM,64QAM
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM,64QAM
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM,64QAM
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM,64QAM
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM,64QAM
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM,64QAM
A	BAND EDGE	18607 to 19193	18607, 19193	1.4MHz	QPSK,16QAM,64QAM
		18615 to 19185	18615, 19185	3MHz	QPSK,16QAM,64QAM
		18625 to 19175	18625, 19175	5MHz	QPSK,16QAM,64QAM
		18650 to 19150	18650, 19150	10MHz	QPSK,16QAM,64QAM



		18675 to 19125	18675, 19125	15MHz	QPSK,16QAM,64QAM
		18700 to 19100	18700, 19100	20MHz	QPSK,16QAM,64QAM
A	CONDUCTED EMISSION	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM,64QAM
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM,64QAM
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM,64QAM
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM,64QAM
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM,64QAM
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM,64QAM
		A	RADIATED EMISSION	18607 to 19193	18607, 18900, 19193
18615 to 19185	18615, 18900, 19185			3MHz	QPSK
18625 to 19175	18625, 18900, 19175			5MHz	QPSK
18650 to 19150	18650, 18900, 19150			10MHz	QPSK
18675 to 19125	18675, 18900, 19125			15MHz	QPSK
18700 to 19100	18700, 18900, 19100			20MHz	QPSK

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.



TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	25deg. C, 57%RH	DC 4V By DC Supply	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 61%RH	DC 3.7V/4V/4V By DC Supply	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 61%RH	DC4V By DC Supply	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 61%RH	DC 4V By DC Supply	Hanwen Xu
BAND EDGE	23deg. C, 61%RH	DC4V By DC Supply	Hanwen Xu
CONDUCTED EMISSION	23deg. C, 61%RH	DC4V By DC Supply	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC4V By DC Supply	Hanwen Xu

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, 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/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile and portable stations are limited to 2 watts EIRP.

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

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 determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_{T} = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_{C} = 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

CONDUCTED OUTPUT POWER (dBm)

Band		GSM1900		
Frequency		1850.2	1880	1909.8
Channel		512	661	810
GSM		29.17	29.22	29.13
GPRS (GMSK)	1Tx-slot	29.08	29.02	28.88
	2Tx- slots	26.86	27.01	26.81
	3Tx-slots	25.29	25.52	25.25
	4Tx-slots	24.33	24.50	24.22

Band		WCDMA II		
Channel		9262	9400	9538
Frequency		1852.4	1880	1907.6
Release 99	RMC,12.2kbps	22.50	22.44	22.28
HSDPA	Subtest1	21.50	21.42	21.29
	Subtest2	21.49	21.43	21.27
	Subtest3	21.00	20.93	20.76
	Subtest4	20.98	20.92	20.77
HSUPA	Subtest1	21.48	21.42	21.28
	Subtest2	19.49	19.43	19.28
	Subtest3	20.48	20.42	20.29
	Subtest4	19.13	19.05	18.85
	Subtest5	21.48	21.40	21.28
HSPA+	QPSK	21.05	20.98	20.83
	16QAM	21.02	20.92	20.80



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

LTE BAND 2

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)		
				18607	18900	19193
				1850.7	1880	1909.3
2/1.4	QPSK	1	0	22.51	22.56	22.11
		1	3	22.47	22.50	22.48
		1	5	22.50	22.46	22.28
		3	0	22.56	22.31	22.39
		3	1	22.56	22.34	22.34
		3	3	22.58	22.49	22.36
		6	0	21.42	21.41	21.31
	16QAM	1	0	21.80	21.58	21.38
		1	3	21.74	21.52	21.62
		1	5	21.74	21.67	21.49
		3	0	21.58	21.38	21.32
		3	1	21.57	21.41	21.38
		3	3	21.48	21.51	21.35
		6	0	20.59	20.40	20.38
	64QAM	1	0	20.66	20.57	20.60
		1	3	20.86	20.62	20.59
		1	5	20.83	20.62	20.45
		3	0	20.60	20.48	20.37
		3	1	20.52	20.48	20.33
		3	3	20.68	20.55	20.48
		6	0	19.50	19.55	19.39



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)		
				18615	18900	19185
				1851.5	1880	1908.5
2/3	QPSK	1	0	22.45	22.28	22.16
		1	8	22.67	22.48	22.14
		1	14	22.41	22.38	22.14
		8	0	21.50	21.44	21.37
		8	4	21.52	21.47	21.33
		8	7	21.51	21.43	21.31
		15	0	21.56	21.43	21.38
	16QAM	1	0	21.61	21.49	21.35
		1	8	21.91	21.51	21.62
		1	14	21.61	21.71	21.37
		8	0	20.53	20.40	20.28
		8	4	20.60	20.38	20.38
		8	7	20.64	20.46	20.35
		15	0	20.48	20.46	20.27
	64QAM	1	0	20.56	20.31	20.71
		1	8	20.65	21.07	20.66
		1	14	20.83	20.40	20.12
		8	0	19.61	19.57	19.35
		8	4	19.65	19.66	19.28
		8	7	19.61	19.44	19.40
		15	0	19.44	19.50	19.31



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)		
				18625	18900	19175
				1852.5	1880	1907.5
2/5	QPSK	1	0	22.54	22.65	22.37
		1	12	22.40	22.45	22.20
		1	24	22.55	22.80	22.35
		12	0	21.56	21.42	21.40
		12	7	21.47	21.51	21.38
		12	13	21.54	21.46	21.35
		25	0	21.57	21.38	21.36
	16QAM	1	0	21.89	21.82	21.68
		1	12	21.52	21.81	21.52
		1	24	21.64	21.89	21.73
		12	0	20.58	20.47	20.47
		12	7	20.69	20.51	20.41
		12	13	20.57	20.55	20.27
		25	0	20.54	20.37	20.33
	64QAM	1	0	20.94	21.01	20.50
		1	12	20.84	20.85	20.62
		1	24	20.71	21.18	20.69
		12	0	19.50	19.52	19.45
		12	7	19.67	19.64	19.47
		12	13	19.58	19.56	19.32
		25	0	19.57	19.40	19.43



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)		
				18650	18900	19150
				1855	1880	1905
2/10	QPSK	1	0	22.48	22.35	22.25
		1	25	22.60	22.34	22.33
		1	49	22.48	22.48	22.46
		25	0	21.52	21.36	21.34
		25	12	21.65	21.47	21.34
		25	25	21.60	21.47	21.46
		50	0	21.50	21.36	21.27
	16QAM	1	0	21.94	21.77	21.31
		1	25	21.76	21.85	21.79
		1	49	21.79	21.35	21.54
		25	0	20.62	20.44	20.24
		25	12	20.62	20.41	20.34
		25	25	20.53	20.51	20.33
		50	0	20.54	20.48	20.28
	64QAM	1	0	20.61	20.59	20.31
		1	25	20.62	20.72	20.78
		1	49	20.70	20.52	20.76
		25	0	19.52	19.53	19.30
		25	12	19.59	19.33	19.45
		25	25	19.65	19.52	19.36
		50	0	19.53	19.41	19.30



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VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)		
				18675	18900	19125
				1857.5	1880	1902.5
2/15	QPSK	1	0	22.39	22.23	22.31
		1	37	22.94	22.31	22.69
		1	74	22.46	22.50	22.46
		36	0	21.51	21.46	21.31
		36	29	21.54	21.47	21.32
		36	30	21.53	21.47	21.34
		75	0	21.43	21.33	21.31
	16QAM	1	0	21.79	21.42	21.73
		1	37	21.88	21.72	21.58
		1	74	21.49	21.72	21.74
		36	0	20.45	20.39	20.36
		36	29	20.62	20.42	20.30
		36	30	20.51	20.48	20.32
		75	0	20.44	20.40	20.29
	64QAM	1	0	20.59	20.66	20.71
		1	37	20.54	20.71	20.95
		1	74	20.55	20.86	20.62
		36	0	19.51	19.55	19.39
		36	29	19.58	19.66	19.33
		36	30	19.54	19.51	19.34
		75	0	19.51	19.37	19.38



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)		
				18700	18900	19100
				1860	1880	1900
2/20	QPSK	1	0	22.44	22.48	22.39
		1	49	22.55	22.47	22.39
		1	99	22.87	22.39	22.39
		50	0	21.59	21.39	21.40
		50	24	21.59	21.42	21.45
		50	50	21.56	21.48	21.37
		100	0	21.48	21.42	21.40
	16QAM	1	0	21.75	21.59	21.33
		1	49	21.67	21.65	21.55
		1	99	21.51	21.71	21.52
		50	0	20.53	20.40	20.43
		50	24	20.58	20.48	20.42
		50	50	20.55	20.51	20.40
		100	0	20.60	20.40	20.41
	64QAM	1	0	20.87	20.59	20.88
		1	49	21.00	20.56	20.71
		1	99	20.86	20.83	20.53
		50	0	19.53	19.54	19.49
		50	24	19.61	19.49	19.46
		50	50	19.53	19.52	19.34
		100	0	19.57	19.42	19.44



EIRP POWER (dBm)

GSM

GSM Measured Power:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
1850.2	512	29.17	27.27	0.533
1880	661	29.22	27.32	0.540
1909.8	810	29.13	27.23	0.528

GPRS Measured Power:

Carrier frequency (MHz)	Channel No.	TX Mode	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
1850.2	512	1Tx-slot	29.08	27.18	0.522
1880	661	1Tx-slot	29.02	27.12	0.515
1909.8	810	1Tx-slot	28.88	26.98	0.499
1850.2	512	2Tx- slots	26.86	24.96	0.313
1880	661	2Tx- slots	27.01	25.11	0.324
1909.8	810	2Tx- slots	26.81	24.91	0.310
1850.2	512	3Tx-slots	25.29	23.39	0.218
1880	661	3Tx-slots	25.52	23.62	0.230
1909.8	810	3Tx-slots	25.25	23.35	0.216
1850.2	512	4Tx-slots	24.33	22.43	0.175
1880	661	4Tx-slots	24.50	22.60	0.182
1909.8	810	4Tx-slots	24.22	22.32	0.171

WCDMA II

Mode		Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
Release 99	RMC,12.2kbps	1852.4	9262	22.50	20.60	0.115
Release 99	RMC,12.2kbps	1880	9400	22.44	20.54	0.113
Release 99	RMC,12.2kbps	1907.6	9538	22.28	20.38	0.109

Mode		Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
HSDPA	Subtest1	1852.4	9262	21.50	19.60	0.091
HSDPA	Subtest1	1880	9400	21.42	19.52	0.090
HSDPA	Subtest1	1907.6	9538	21.29	19.39	0.087
HSDPA	Subtest2	1852.4	9262	21.49	19.59	0.091
HSDPA	Subtest2	1880	9400	21.43	19.53	0.090
HSDPA	Subtest2	1907.6	9538	21.27	19.37	0.086
HSDPA	Subtest3	1852.4	9262	21.00	19.10	0.081
HSDPA	Subtest3	1880	9400	20.93	19.03	0.080
HSDPA	Subtest3	1907.6	9538	20.76	18.86	0.077



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HSDPA	Subtest4	1852.4	9262	20.98	19.08	0.081
HSDPA	Subtest4	1880	9400	20.92	19.02	0.080
HSDPA	Subtest4	1907.6	9538	20.77	18.87	0.077

Mode		Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
HSUPA	Subtest1	1852.4	9262	21.48	19.58	0.091
HSUPA	Subtest1	1880	9400	21.42	19.52	0.090
HSUPA	Subtest1	1907.6	9538	21.28	19.38	0.087
HSUPA	Subtest2	1852.4	9262	19.49	17.59	0.057
HSUPA	Subtest2	1880	9400	19.43	17.53	0.057
HSUPA	Subtest2	1907.6	9538	19.28	17.38	0.055
HSUPA	Subtest3	1852.4	9262	20.48	18.58	0.072
HSUPA	Subtest3	1880	9400	20.42	18.52	0.071
HSUPA	Subtest3	1907.6	9538	20.29	18.39	0.069
HSUPA	Subtest4	1852.4	9262	19.13	17.23	0.053
HSUPA	Subtest4	1880	9400	19.05	17.15	0.052
HSUPA	Subtest4	1907.6	9538	18.85	16.95	0.050
HSUPA	Subtest5	1852.4	9262	21.48	19.58	0.091
HSUPA	Subtest5	1880	9400	21.40	19.50	0.089
HSUPA	Subtest5	1907.6	9538	21.28	19.38	0.087

Mode		Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
HSPA+	QPSK	1852.4	9262	21.05	19.15	0.082
HSPA+	QPSK	1880	9400	20.98	19.08	0.081
HSPA+	QPSK	1907.6	9538	20.83	18.93	0.078
HSPA+	16QAM	1852.4	9262	21.02	19.12	0.082
HSPA+	16QAM	1880	9400	20.92	19.02	0.080
HSPA+	16QAM	1907.6	9538	20.80	18.90	0.078



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

LTE BAND 2

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)			ERP/EIRP (dBm)			ERP/EIRP (W)		
				18607	18900	19193	18607	18900	19193	18607	18900	19193
				1850.7	1880	1909.3	1850.7	1880	1909.3	1850.7	1880	1909.3
2/1.4	QPSK	1	0	22.51	22.56	22.11	20.61	20.66	20.21	0.115	0.116	0.105
		1	3	22.47	22.50	22.48	20.57	20.60	20.58	0.114	0.115	0.114
		1	5	22.50	22.46	22.28	20.60	20.56	20.38	0.115	0.114	0.109
		3	0	22.56	22.31	22.39	20.66	20.41	20.49	0.116	0.110	0.112
		3	1	22.56	22.34	22.34	20.66	20.44	20.44	0.116	0.111	0.111
		3	3	22.58	22.49	22.36	20.68	20.59	20.46	0.117	0.115	0.111
	16QAM	6	0	21.42	21.41	21.31	19.52	19.51	19.41	0.090	0.089	0.087
		1	0	21.80	21.58	21.38	19.90	19.68	19.48	0.098	0.093	0.089
		1	3	21.74	21.52	21.62	19.84	19.62	19.72	0.096	0.092	0.094
		1	5	21.74	21.67	21.49	19.84	19.77	19.59	0.096	0.095	0.091
		3	0	21.58	21.38	21.32	19.68	19.48	19.42	0.093	0.089	0.087
		3	1	21.57	21.41	21.38	19.67	19.51	19.48	0.093	0.089	0.089
	64QAM	3	3	21.48	21.51	21.35	19.58	19.61	19.45	0.091	0.091	0.088
		6	0	20.59	20.40	20.38	18.69	18.50	18.48	0.074	0.071	0.070
		1	0	20.66	20.57	20.60	18.76	18.67	18.70	0.075	0.074	0.074
		1	3	20.86	20.62	20.59	18.96	18.72	18.69	0.079	0.074	0.074
		1	5	20.83	20.62	20.45	18.93	18.72	18.55	0.078	0.074	0.072
		3	0	20.60	20.48	20.37	18.70	18.58	18.47	0.074	0.072	0.070
		3	1	20.52	20.48	20.33	18.62	18.58	18.43	0.073	0.072	0.070
	3	3	20.68	20.55	20.48	18.78	18.65	18.58	0.076	0.073	0.072	
	6	0	19.50	19.55	19.39	17.60	17.65	17.49	0.058	0.058	0.056	



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)			ERP/EIRP (dBm)			ERP/EIRP (W)		
				18615	18900	19185	18615	18900	19185	18615	18900	19185
				1851.5	1880	1908.5	1851.5	1880	1908.5	1851.5	1880	1908.5
2/3	QPSK	1	0	22.45	22.28	22.16	20.55	20.38	20.26	0.114	0.109	0.106
		1	8	22.67	22.48	22.14	20.77	20.58	20.24	0.119	0.114	0.106
		1	14	22.41	22.38	22.14	20.51	20.48	20.24	0.112	0.112	0.106
		8	0	21.50	21.44	21.37	19.60	19.54	19.47	0.091	0.090	0.089
		8	4	21.52	21.47	21.33	19.62	19.57	19.43	0.092	0.091	0.088
		8	7	21.51	21.43	21.31	19.61	19.53	19.41	0.091	0.090	0.087
		15	0	21.56	21.43	21.38	19.66	19.53	19.48	0.092	0.090	0.089
	16QAM	1	0	21.61	21.49	21.35	19.71	19.59	19.45	0.094	0.091	0.088
		1	8	21.91	21.51	21.62	20.01	19.61	19.72	0.100	0.091	0.094
		1	14	21.61	21.71	21.37	19.71	19.81	19.47	0.094	0.096	0.089
		8	0	20.53	20.40	20.28	18.63	18.50	18.38	0.073	0.071	0.069
		8	4	20.60	20.38	20.38	18.70	18.48	18.48	0.074	0.070	0.070
		8	7	20.64	20.46	20.35	18.74	18.56	18.45	0.075	0.072	0.070
		15	0	20.48	20.46	20.27	18.58	18.56	18.37	0.072	0.072	0.069
	64QAM	1	0	20.56	20.31	20.71	18.66	18.41	18.81	0.073	0.069	0.076
		1	8	20.65	21.07	20.66	18.75	19.17	18.76	0.075	0.083	0.075
		1	14	20.83	20.40	20.12	18.93	18.50	18.22	0.078	0.071	0.066
		8	0	19.61	19.57	19.35	17.71	17.67	17.45	0.059	0.058	0.056
		8	4	19.65	19.66	19.28	17.75	17.76	17.38	0.060	0.060	0.055
		8	7	19.61	19.44	19.40	17.71	17.54	17.50	0.059	0.057	0.056
		15	0	19.44	19.50	19.31	17.54	17.60	17.41	0.057	0.058	0.055



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)			ERP/EIRP (dBm)			ERP/EIRP (W)		
				18625	18900	19175	18625	18900	19175	18625	18900	19175
				1852.5	1880	1907.5	1852.5	1880	1907.5	1852.5	1880	1907.5
2/5	QPSK	1	0	22.54	22.65	22.37	20.64	20.75	20.47	0.116	0.119	0.111
		1	12	22.40	22.45	22.20	20.50	20.55	20.30	0.112	0.114	0.107
		1	24	22.55	22.80	22.35	20.65	20.90	20.45	0.116	0.123	0.111
		12	0	21.56	21.42	21.40	19.66	19.52	19.50	0.092	0.090	0.089
		12	7	21.47	21.51	21.38	19.57	19.61	19.48	0.091	0.091	0.089
		12	13	21.54	21.46	21.35	19.64	19.56	19.45	0.092	0.090	0.088
		25	0	21.57	21.38	21.36	19.67	19.48	19.46	0.093	0.089	0.088
	16QAM	1	0	21.89	21.82	21.68	19.99	19.92	19.78	0.100	0.098	0.095
		1	12	21.52	21.81	21.52	19.62	19.91	19.62	0.092	0.098	0.092
		1	24	21.64	21.89	21.73	19.74	19.99	19.83	0.094	0.100	0.096
		12	0	20.58	20.47	20.47	18.68	18.57	18.57	0.074	0.072	0.072
		12	7	20.69	20.51	20.41	18.79	18.61	18.51	0.076	0.073	0.071
		12	13	20.57	20.55	20.27	18.67	18.65	18.37	0.074	0.073	0.069
		25	0	20.54	20.37	20.33	18.64	18.47	18.43	0.073	0.070	0.070
	64QAM	1	0	20.94	21.01	20.50	19.04	19.11	18.60	0.080	0.081	0.072
		1	12	20.84	20.85	20.62	18.94	18.95	18.72	0.078	0.079	0.074
		1	24	20.71	21.18	20.69	18.81	19.28	18.79	0.076	0.085	0.076
		12	0	19.50	19.52	19.45	17.60	17.62	17.55	0.058	0.058	0.057
		12	7	19.67	19.64	19.47	17.77	17.74	17.57	0.060	0.059	0.057
		12	13	19.58	19.56	19.32	17.68	17.66	17.42	0.059	0.058	0.055
		25	0	19.57	19.40	19.43	17.67	17.50	17.53	0.058	0.056	0.057



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)			ERP/EIRP (dBm)			ERP/EIRP (W)		
				18650	18900	19150	18650	18900	19150	18650	18900	19150
				1855	1880	1905	1855	1880	1905	1855	1880	1905
2/10	QPSK	1	0	22.48	22.35	22.25	20.58	20.45	20.35	0.114	0.111	0.108
		1	25	22.60	22.34	22.33	20.70	20.44	20.43	0.117	0.111	0.110
		1	49	22.48	22.48	22.46	20.58	20.58	20.56	0.114	0.114	0.114
		25	0	21.52	21.36	21.34	19.62	19.46	19.44	0.092	0.088	0.088
		25	12	21.65	21.47	21.34	19.75	19.57	19.44	0.094	0.091	0.088
		25	25	21.60	21.47	21.46	19.70	19.57	19.56	0.093	0.091	0.090
		50	0	21.50	21.36	21.27	19.60	19.46	19.37	0.091	0.088	0.086
	16QAM	1	0	21.94	21.77	21.31	20.04	19.87	19.41	0.101	0.097	0.087
		1	25	21.76	21.85	21.79	19.86	19.95	19.89	0.097	0.099	0.097
		1	49	21.79	21.35	21.54	19.89	19.45	19.64	0.097	0.088	0.092
		25	0	20.62	20.44	20.24	18.72	18.54	18.34	0.074	0.071	0.068
		25	12	20.62	20.41	20.34	18.72	18.51	18.44	0.074	0.071	0.070
		25	25	20.53	20.51	20.33	18.63	18.61	18.43	0.073	0.073	0.070
		50	0	20.54	20.48	20.28	18.64	18.58	18.38	0.073	0.072	0.069
	64QAM	1	0	20.61	20.59	20.31	18.71	18.69	18.41	0.074	0.074	0.069
		1	25	20.62	20.72	20.78	18.72	18.82	18.88	0.074	0.076	0.077
		1	49	20.70	20.52	20.76	18.80	18.62	18.86	0.076	0.073	0.077
		25	0	19.52	19.53	19.30	17.62	17.63	17.40	0.058	0.058	0.055
		25	12	19.59	19.33	19.45	17.69	17.43	17.55	0.059	0.055	0.057
		25	25	19.65	19.52	19.36	17.75	17.62	17.46	0.060	0.058	0.056
		50	0	19.53	19.41	19.30	17.63	17.51	17.40	0.058	0.056	0.055



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)			ERP/EIRP (dBm)			ERP/EIRP (W)		
				18675	18900	19125	18675	18900	19125	18675	18900	19125
				1857.5	1880	1902.5	1857.5	1880	1902.5	1857.5	1880	1902.5
2/15	QPSK	1	0	22.39	22.23	22.31	20.49	20.33	20.41	0.112	0.108	0.110
		1	37	22.94	22.31	22.69	21.04	20.41	20.79	0.127	0.110	0.120
		1	74	22.46	22.50	22.46	20.56	20.60	20.56	0.114	0.115	0.114
		36	0	21.51	21.46	21.31	19.61	19.56	19.41	0.091	0.090	0.087
		36	29	21.54	21.47	21.32	19.64	19.57	19.42	0.092	0.091	0.087
		36	30	21.53	21.47	21.34	19.63	19.57	19.44	0.092	0.091	0.088
		75	0	21.43	21.33	21.31	19.53	19.43	19.41	0.090	0.088	0.087
	16QAM	1	0	21.79	21.42	21.73	19.89	19.52	19.83	0.097	0.090	0.096
		1	37	21.88	21.72	21.58	19.98	19.82	19.68	0.100	0.096	0.093
		1	74	21.49	21.72	21.74	19.59	19.82	19.84	0.091	0.096	0.096
		36	0	20.45	20.39	20.36	18.55	18.49	18.46	0.072	0.071	0.070
		36	29	20.62	20.42	20.30	18.72	18.52	18.40	0.074	0.071	0.069
		36	30	20.51	20.48	20.32	18.61	18.58	18.42	0.073	0.072	0.070
		75	0	20.44	20.40	20.29	18.54	18.50	18.39	0.071	0.071	0.069
	64QAM	1	0	20.59	20.66	20.71	18.69	18.76	18.81	0.074	0.075	0.076
		1	37	20.54	20.71	20.95	18.64	18.81	19.05	0.073	0.076	0.080
		1	74	20.55	20.86	20.62	18.65	18.96	18.72	0.073	0.079	0.074
		36	0	19.51	19.55	19.39	17.61	17.65	17.49	0.058	0.058	0.056
		36	29	19.58	19.66	19.33	17.68	17.76	17.43	0.059	0.060	0.055
		36	30	19.54	19.51	19.34	17.64	17.61	17.44	0.058	0.058	0.055
		75	0	19.51	19.37	19.38	17.61	17.47	17.48	0.058	0.056	0.056



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2504150110RF02

BW	Modulation	RB Size	RB Offset	Conducted power(dBm)			ERP/EIRP (dBm)			ERP/EIRP (W)		
				18700	18900	19100	18700	18900	19100	18700	18900	19100
				1860	1880	1900	1860	1880	1900	1860	1880	1900
2/20	QPSK	1	0	22.44	22.48	22.39	20.54	20.58	20.49	0.113	0.114	0.112
		1	49	22.55	22.47	22.39	20.65	20.57	20.49	0.116	0.114	0.112
		1	99	22.87	22.39	22.39	20.97	20.49	20.49	0.125	0.112	0.112
		50	0	21.59	21.39	21.40	19.69	19.49	19.50	0.093	0.089	0.089
		50	24	21.59	21.42	21.45	19.69	19.52	19.55	0.093	0.090	0.090
		50	50	21.56	21.48	21.37	19.66	19.58	19.47	0.092	0.091	0.089
		100	0	21.48	21.42	21.40	19.58	19.52	19.50	0.091	0.090	0.089
	16QAM	1	0	21.75	21.59	21.33	19.85	19.69	19.43	0.097	0.093	0.088
		1	49	21.67	21.65	21.55	19.77	19.75	19.65	0.095	0.094	0.092
		1	99	21.51	21.71	21.52	19.61	19.81	19.62	0.091	0.096	0.092
		50	0	20.53	20.40	20.43	18.63	18.50	18.53	0.073	0.071	0.071
		50	24	20.58	20.48	20.42	18.68	18.58	18.52	0.074	0.072	0.071
		50	50	20.55	20.51	20.40	18.65	18.61	18.50	0.073	0.073	0.071
		100	0	20.60	20.40	20.41	18.70	18.50	18.51	0.074	0.071	0.071
	64QAM	1	0	20.87	20.59	20.88	18.97	18.69	18.98	0.079	0.074	0.079
		1	49	21.00	20.56	20.71	19.10	18.66	18.81	0.081	0.073	0.076
		1	99	20.86	20.83	20.53	18.96	18.93	18.63	0.079	0.078	0.073
		50	0	19.53	19.54	19.49	17.63	17.64	17.59	0.058	0.058	0.057
		50	24	19.61	19.49	19.46	17.71	17.59	17.56	0.059	0.057	0.057
		50	50	19.53	19.52	19.34	17.63	17.62	17.44	0.058	0.058	0.055
		100	0	19.57	19.42	19.44	17.67	17.52	17.54	0.058	0.056	0.057



3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

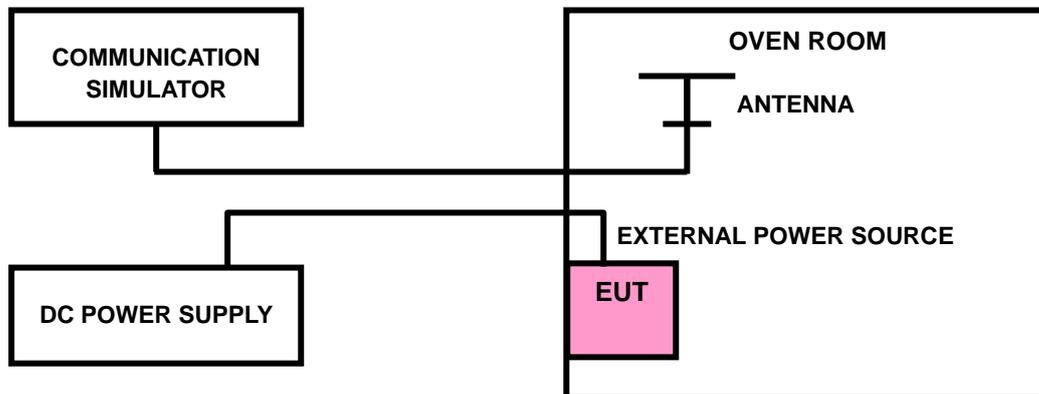
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

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 $\pm 0.5^{\circ}\text{C}$ 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

Please Refer to Appendix Of this test report.

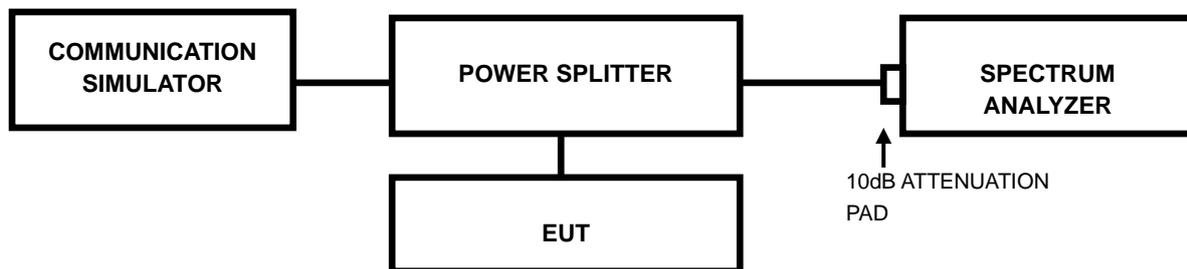


3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

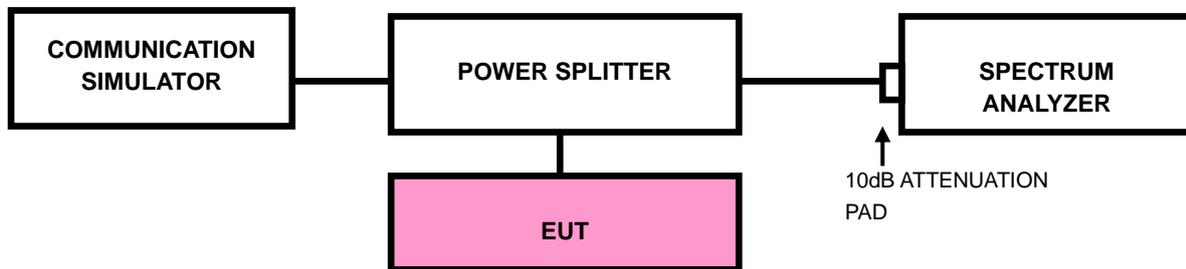


3.4 BAND EDGE MEASUREMENTC

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



3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW)
- d) .Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to ≥ 1001 .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.

3.4.4. TEST RESULTS

Please Refer to Appendix Of this test report.



3.5 CONDUCTED SPURIOUS EMISSIONS

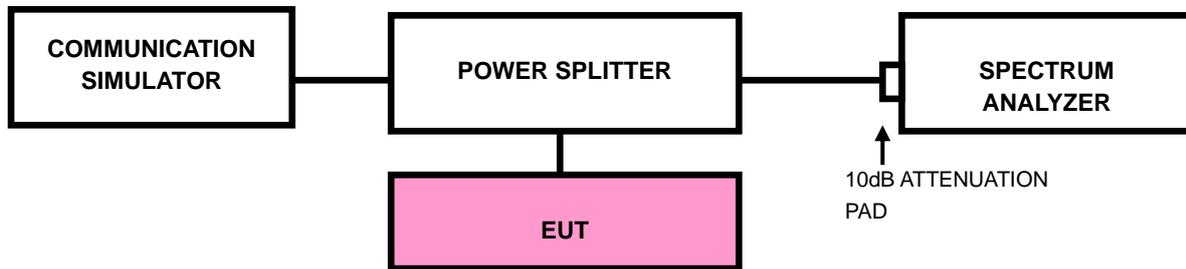
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 -13dBm .

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 30MHz up to a frequency including its 10th harmonic. 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

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix Of this test report.



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 -13dBm .

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. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.

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

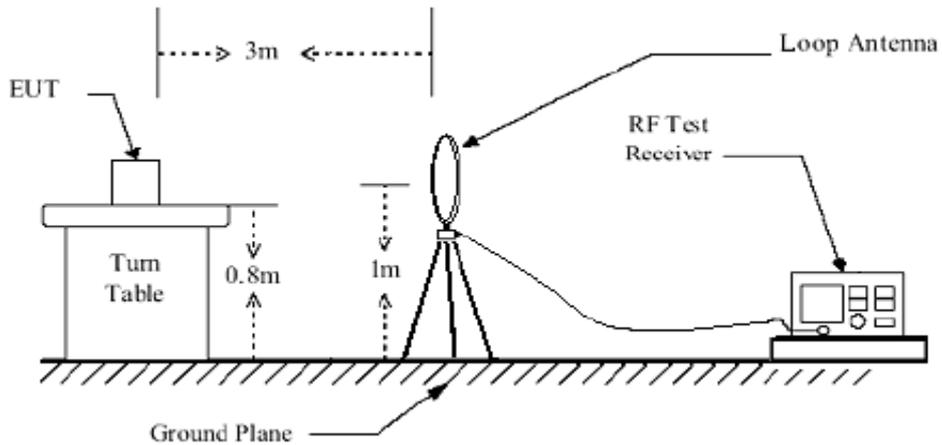
3.6.3 DEVIATION FROM TEST STANDARD

No deviation

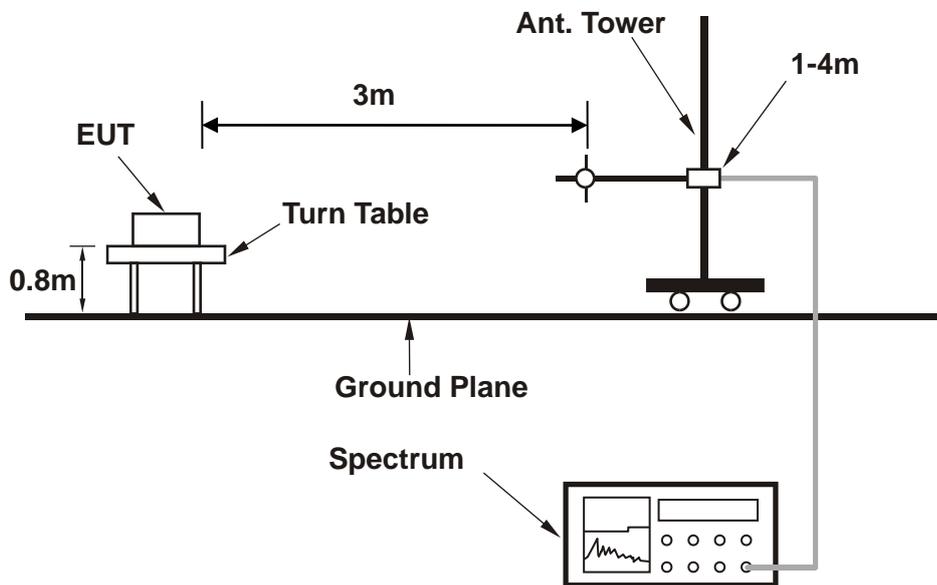


3.6.4 TEST SETUP

< Frequency Range below 30MHz >

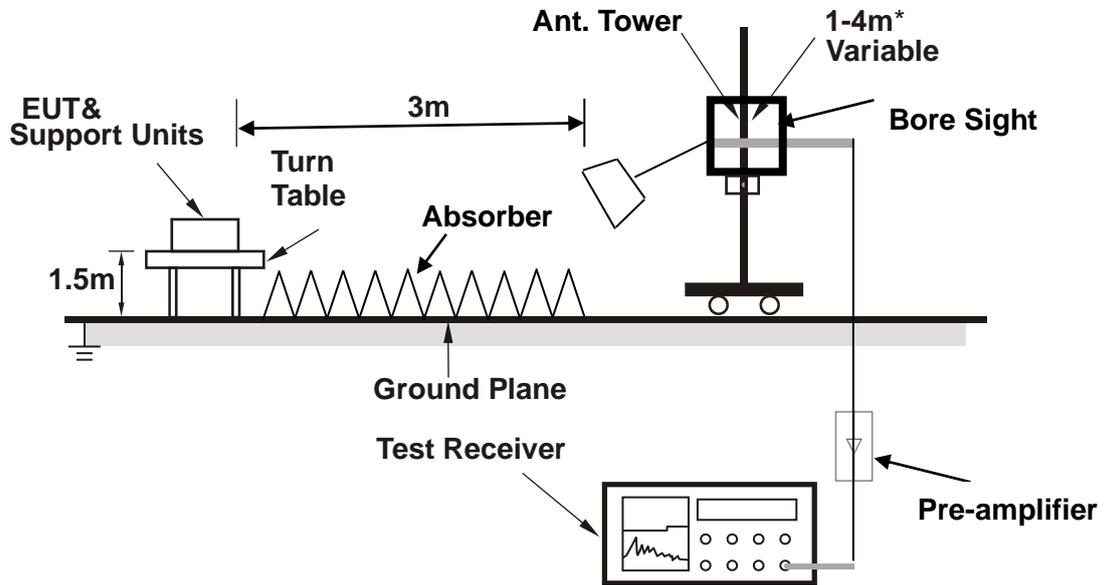


< Frequency Range 30MHz~1GHz >





<Frequency Range above 1GHz>



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).



3.6.5 TEST RESULTS

NOTE1 : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

NOTE2 : The measurement range is 30M to the tenth harmonic of the highest fundamental frequency, For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report

GSM 1900

Test result:

ANT2:

GSM/GPRS MODE Channel 661:

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
1201.00	-59.84	-13.00	Vertical
1334.80	-59.43	-13.00	Vertical
2447.00	-59.53	-13.00	Vertical
3224.00	-58.30	-13.00	Vertical
3350.00	-58.51	-13.00	Vertical
3451.00	-55.64	-13.00	Vertical

WCDMA band II

Test result:

WCDMA Mode:

ANT2: Channel 9400

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
1162.00	-80.45	-13	Vertical
1330.00	-79.79	-13	Vertical
2450.00	-78.31	-13	Vertical
3129.00	-82.96	-13	Vertical
3354.00	-82.82	-13	Vertical
3549.00	-81.12	-13	Vertical



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Test Report No.: PSU-NQN2504150110RF02

LTE band 2

Test result:

ANT2 Channel 18900

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
1145.60	-80.71	-13.00	Vertical
1513.80	-76.81	-13.00	Vertical
2411.19	-78.23	-13.00	Vertical
3099.00	-82.69	-13.00	Vertical
3495.00	-80.78	-13.00	Vertical
4686.00	-87.33	-13.00	Vertical

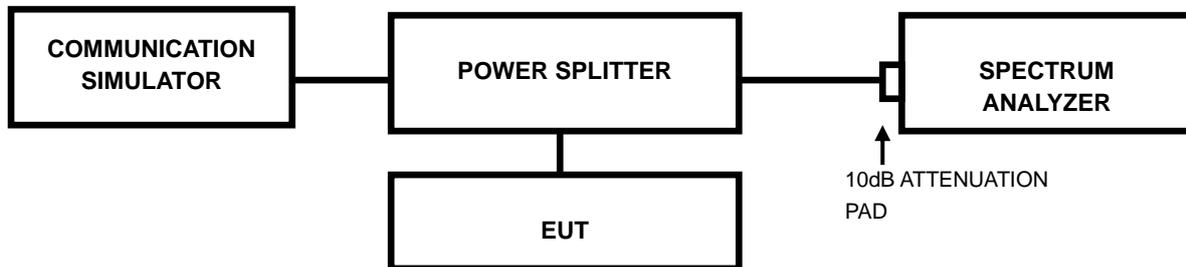


3.7 PEAK TO AVERAGE RATIO

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 \geq 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

Please Refer to Appendix Of this test report.



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Test Report No.: PSU-NQN2504150110RF02

4 INFORMATION ON THE TESTING LABORATORIES

We, Huarui 7layers High Technology (Suzhou) Co., Ltd. ,were founded in 2020 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

If you have any comments, please feel free to contact us at the following:

Suzhou EMC/RF Lab:

Tel: +86 (0557) 368 1008

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.



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Test Report No.: PSU-NQN2504150110RF02

6 APPENDIX

GSM1900

PEAK-TO-AVERAGE RATIO(CCDF)

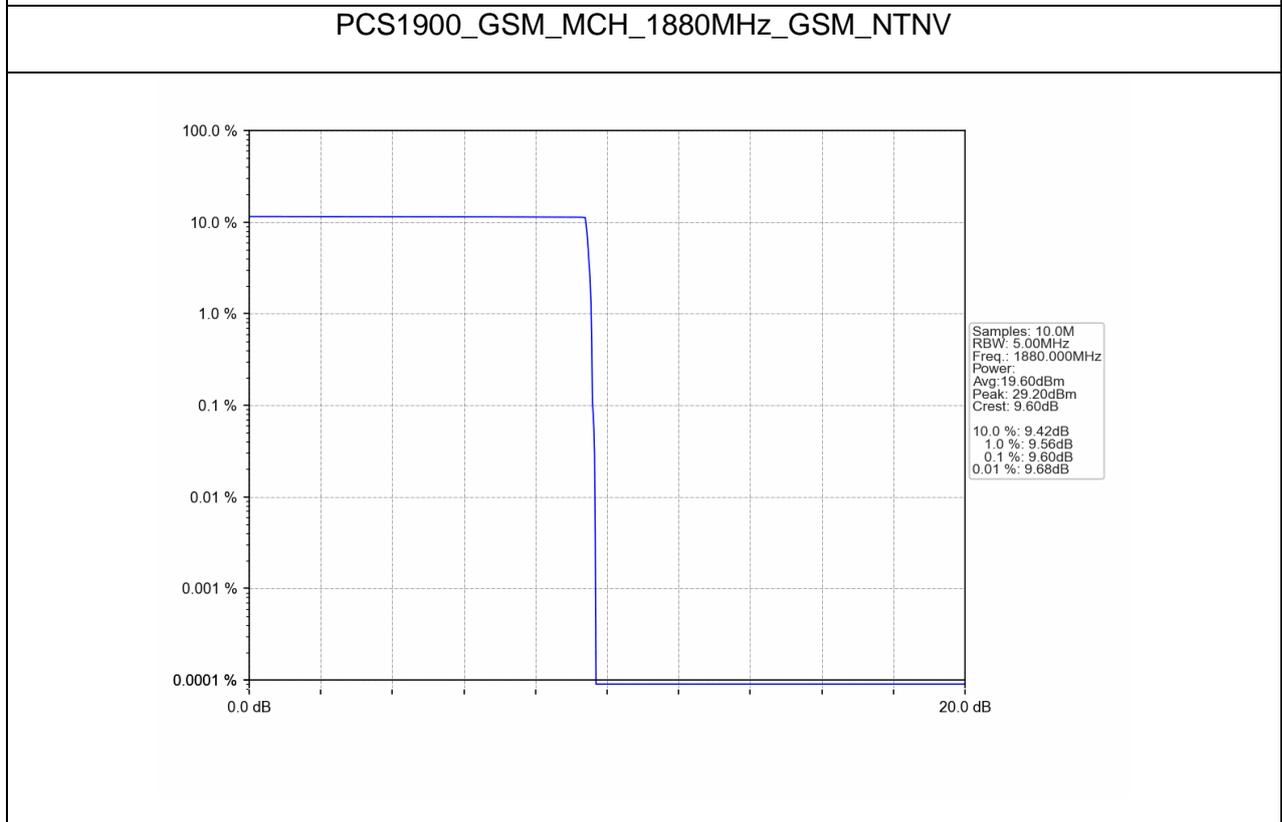
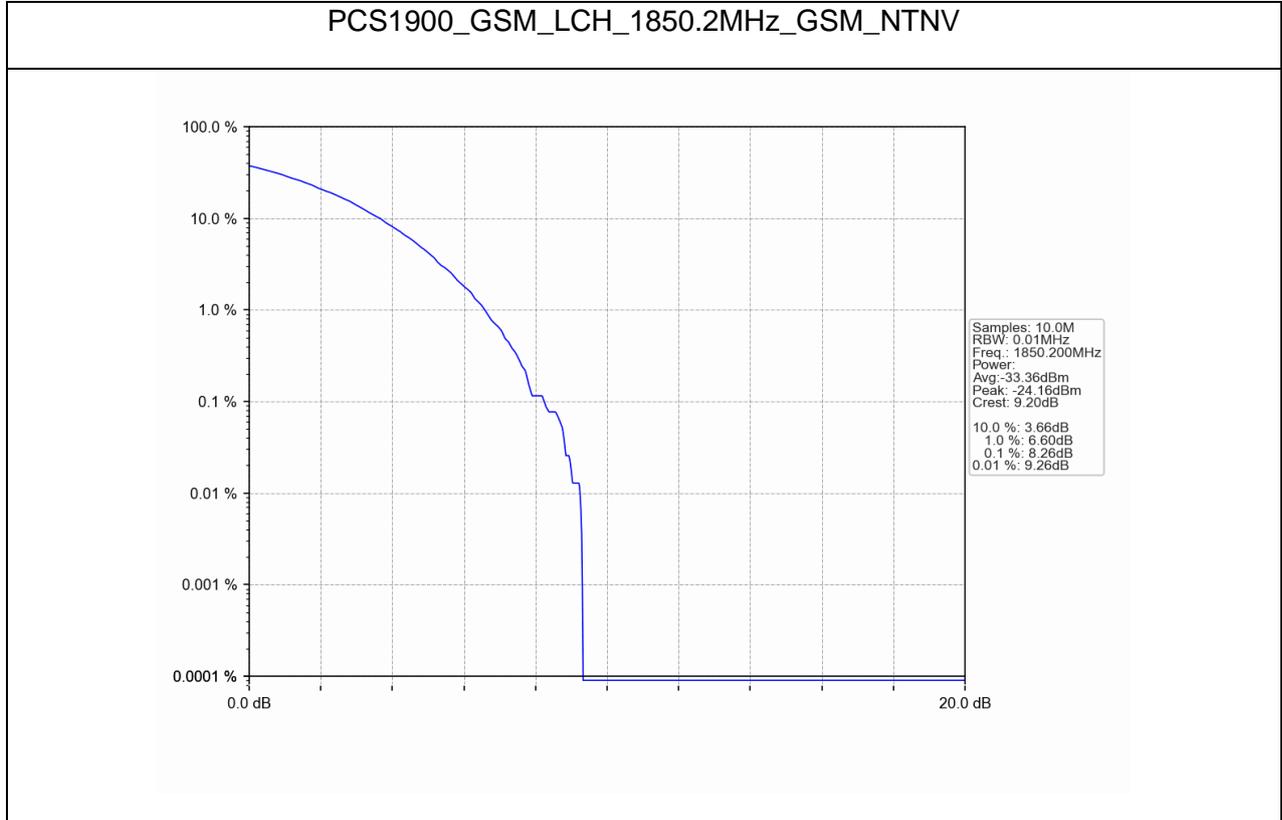
Test Result

Band: PCS1900						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	8.26	<=13	Pass
			1880	9.60	<=13	Pass
			1909.8	9.62	<=13	Pass
	GPRS	4 TX Slots	1850.2	3.80	<=13	Pass
			1880	3.80	<=13	Pass
			1909.8	3.80	<=13	Pass



Test Graphs

PCS1900

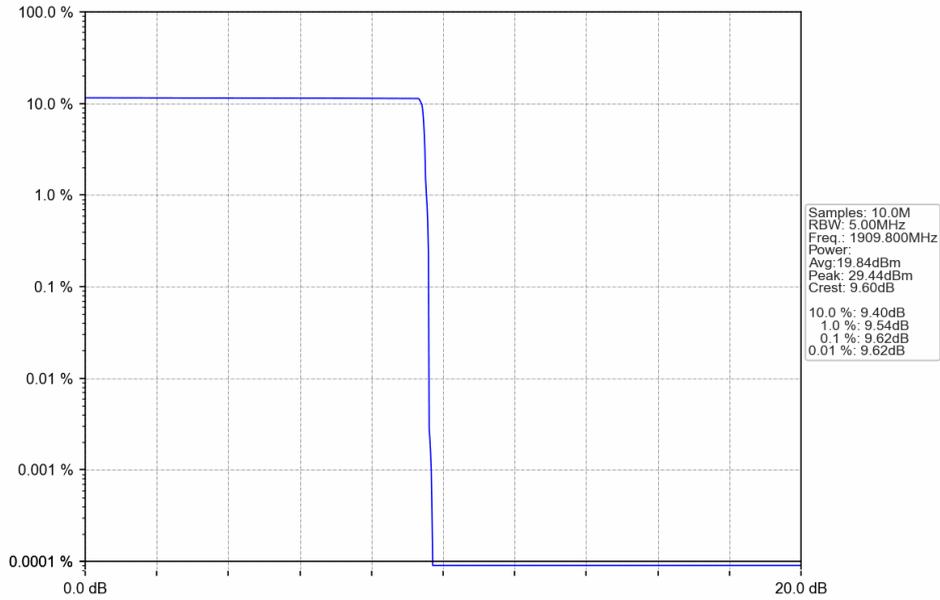




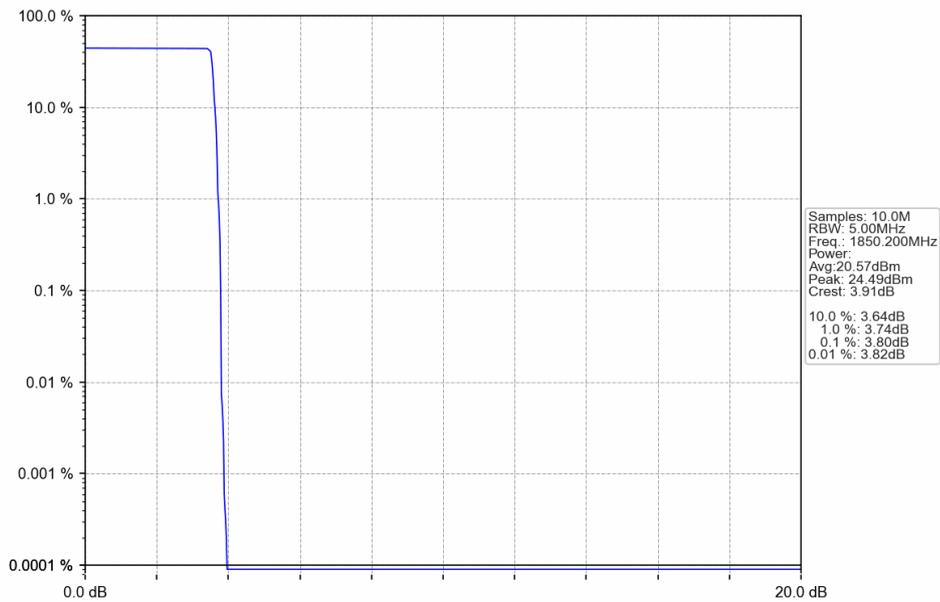
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VERITAS

Test Report No.: PSU-NQN2504150110RF02

PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



PCS1900_GPRS_LCH_1850.2MHz_4 TX Slots_NTNV

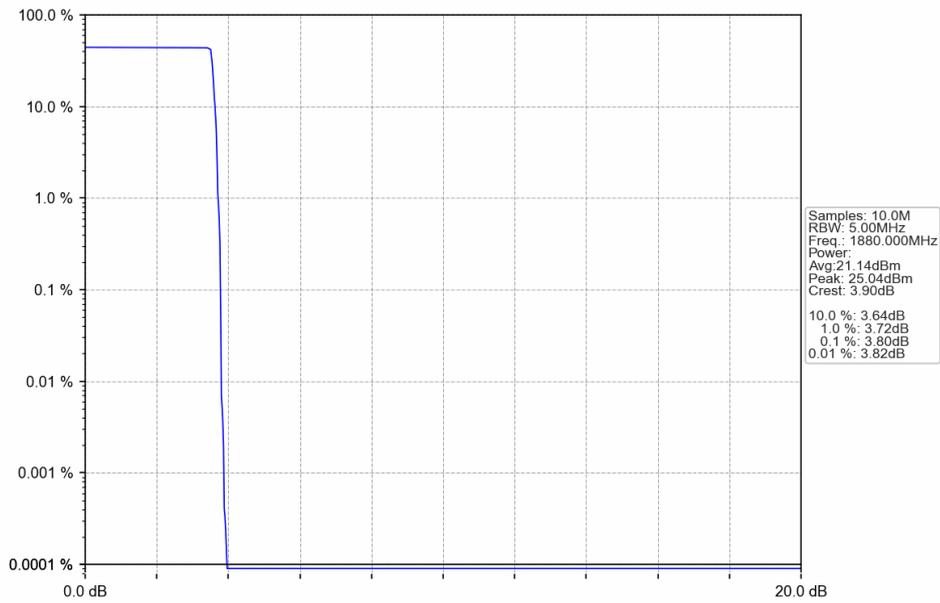




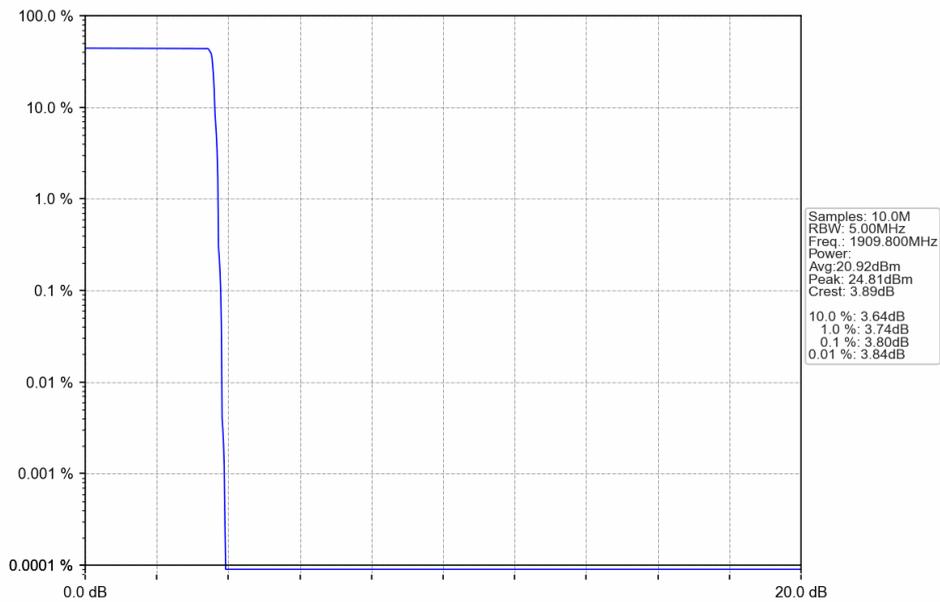
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

PCS1900_GPRS_MCH_1880MHz_4 TX Slots_NTNV



PCS1900_GPRS_HCH_1909.8MHz_4 TX Slots_NTNV





26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

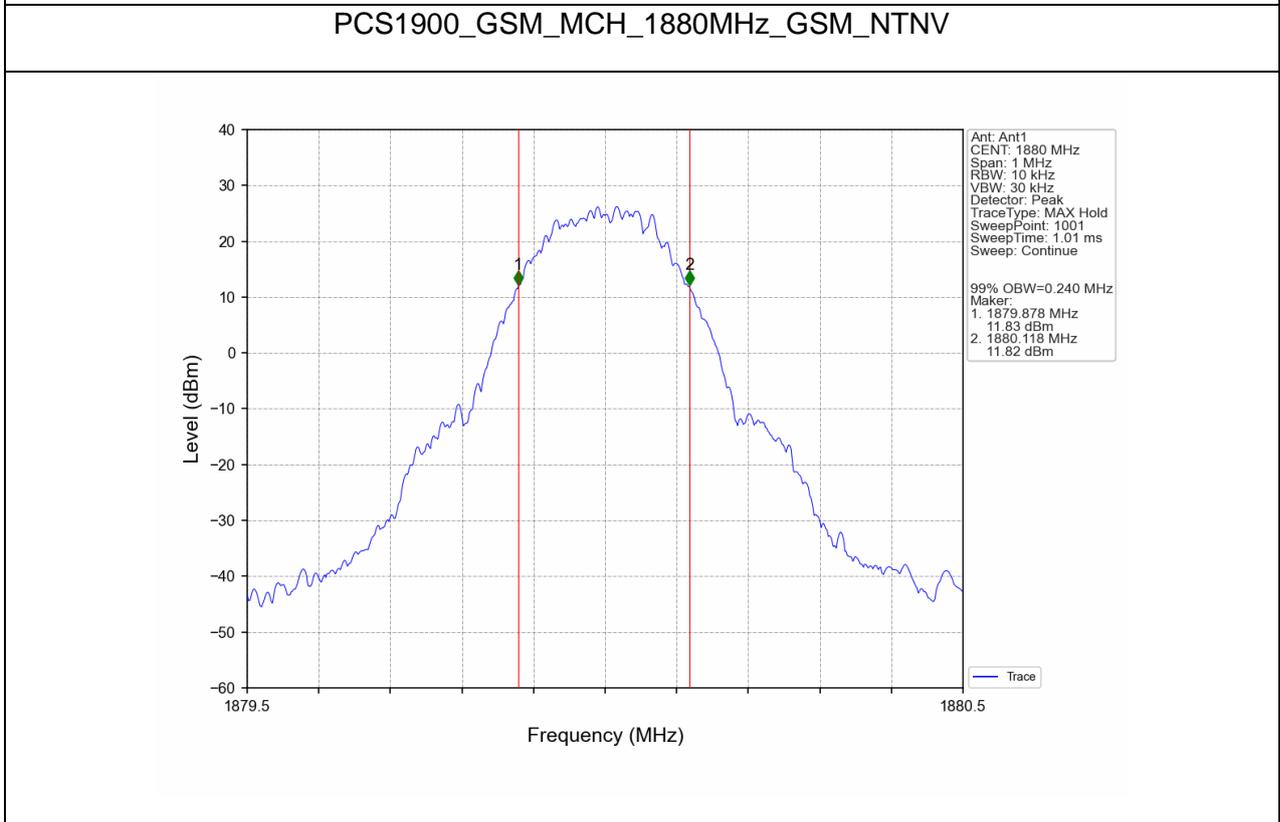
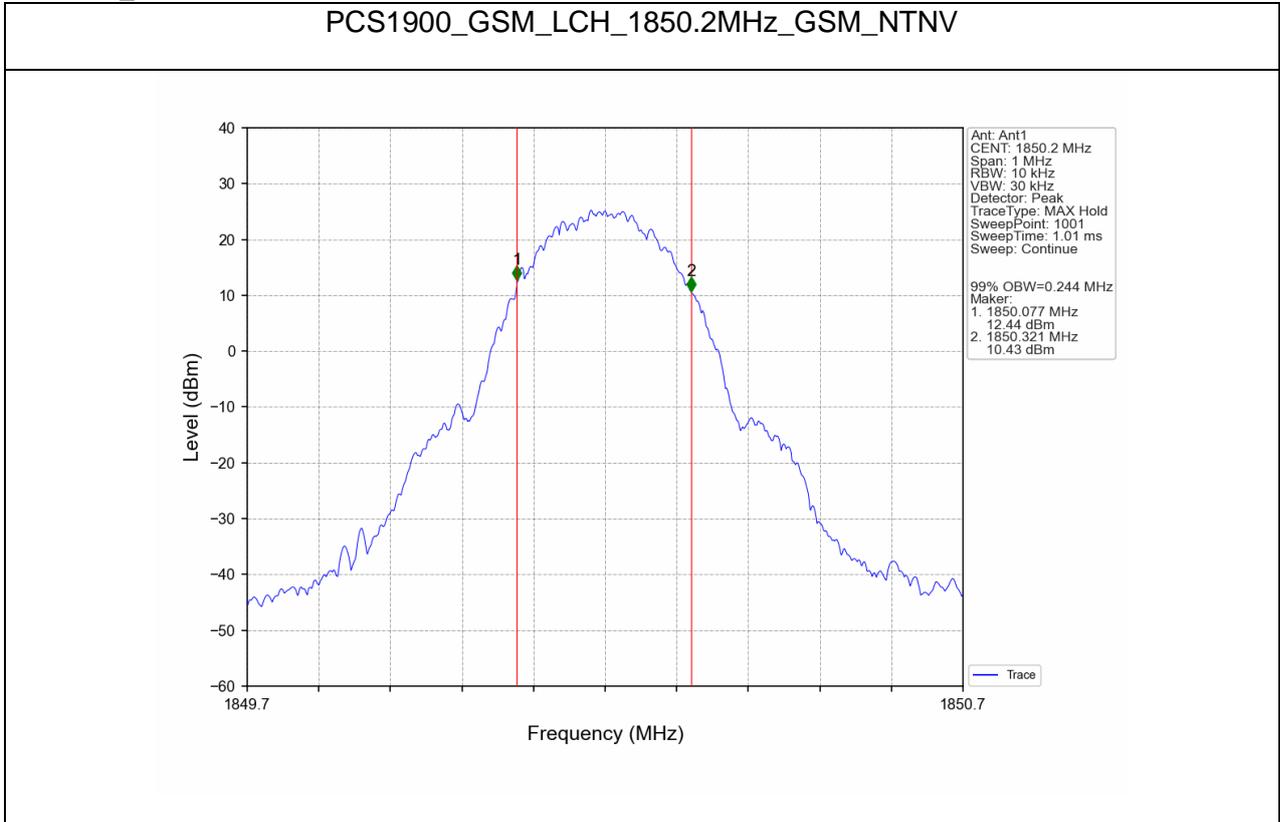
Band: PCS1900						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.244	/	Pass
			1880	0.240	/	Pass
			1909.8	0.246	/	Pass
	GPRS	1 TX Slot	1850.2	0.244	/	Pass
			1880	0.241	/	Pass
			1909.8	0.241	/	Pass

Band: PCS1900						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	0.321	/	Pass
			1880	0.317	/	Pass
			1909.8	0.318	/	Pass
	GPRS	1 TX Slot	1850.2	0.312	/	Pass
			1880	0.316	/	Pass
			1909.8	0.319	/	Pass



Test Graphs

PCS1900_OBW

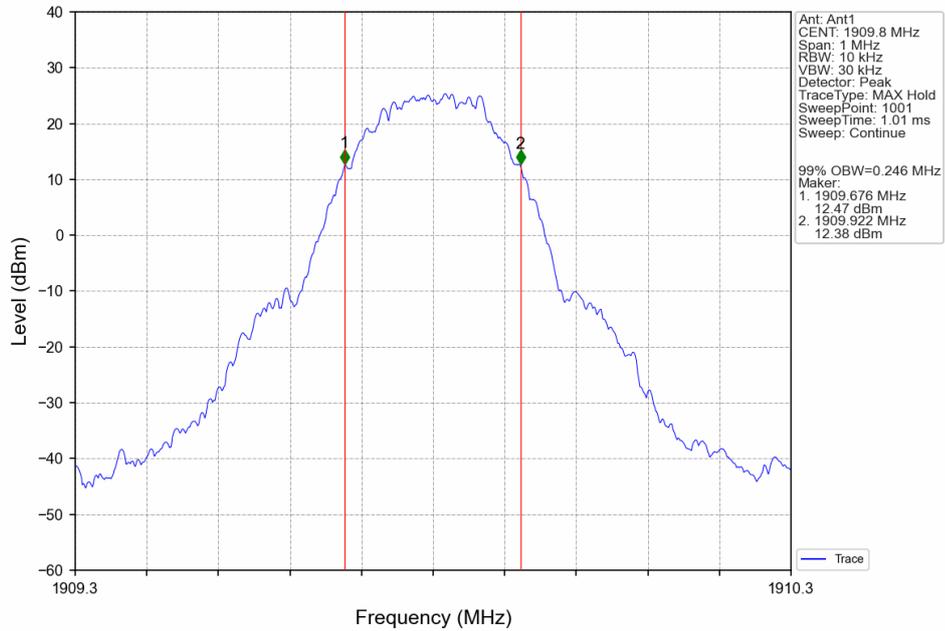




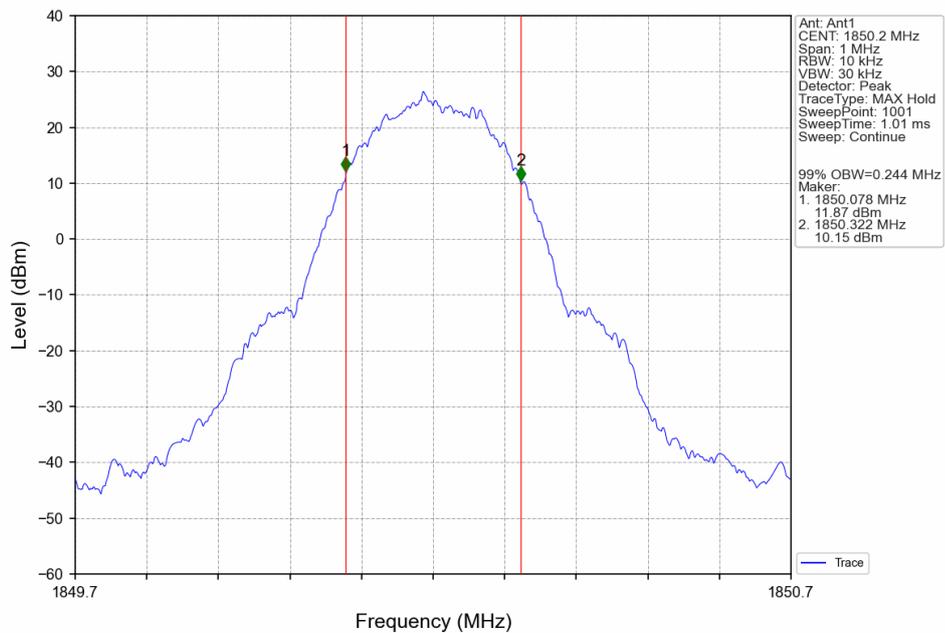
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VERITAS

Test Report No.: PSU-NQN2504150110RF02

PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV

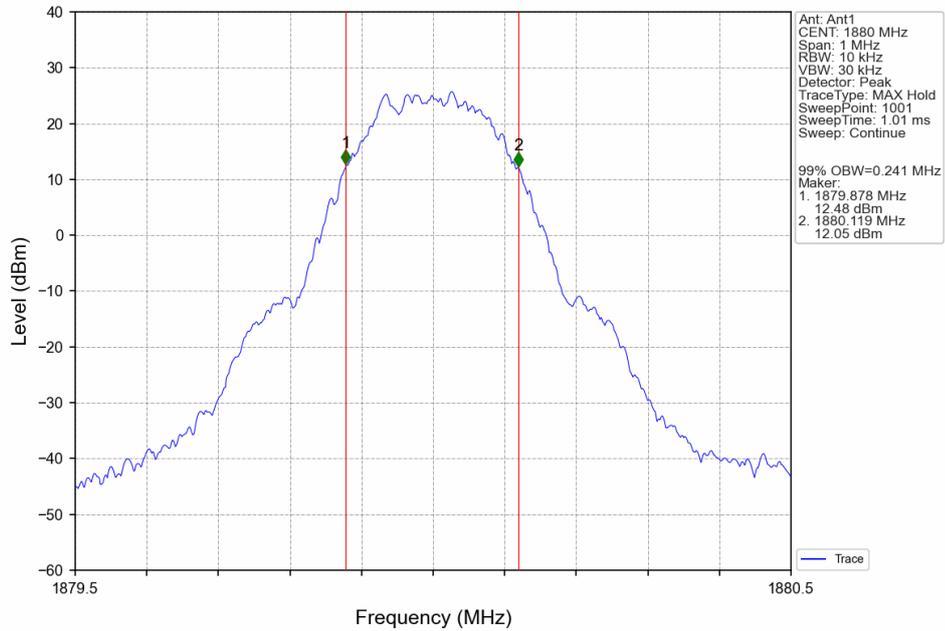




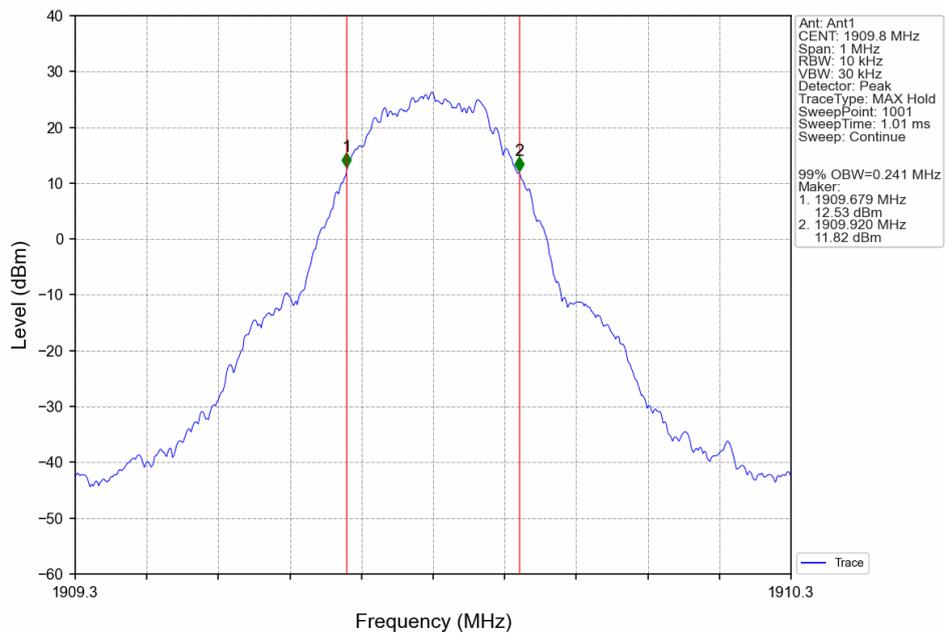
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

PCS1900_GPRS_MCH_1880MHz_1 TX Slot_NTNV



PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV



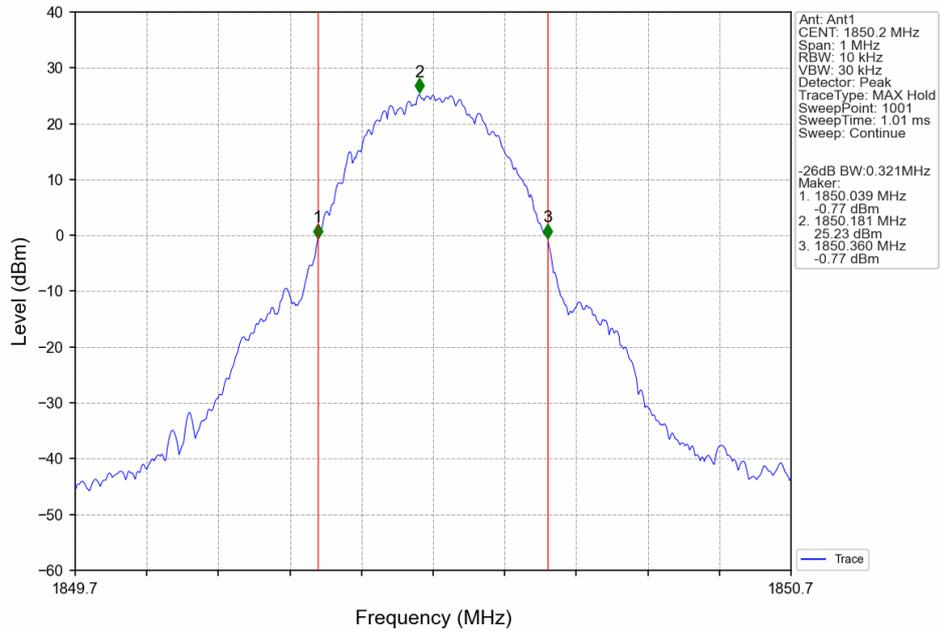


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VERITAS

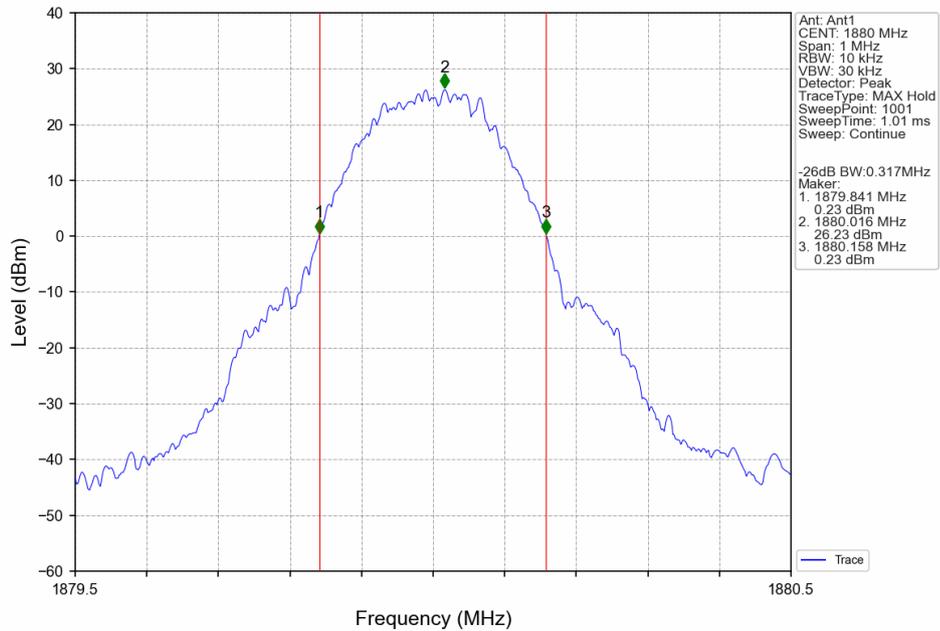
Test Report No.: PSU-NQN2504150110RF02

PCS1900_26DB

PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



PCS1900_GSM_MCH_1880MHz_GSM_NTNV

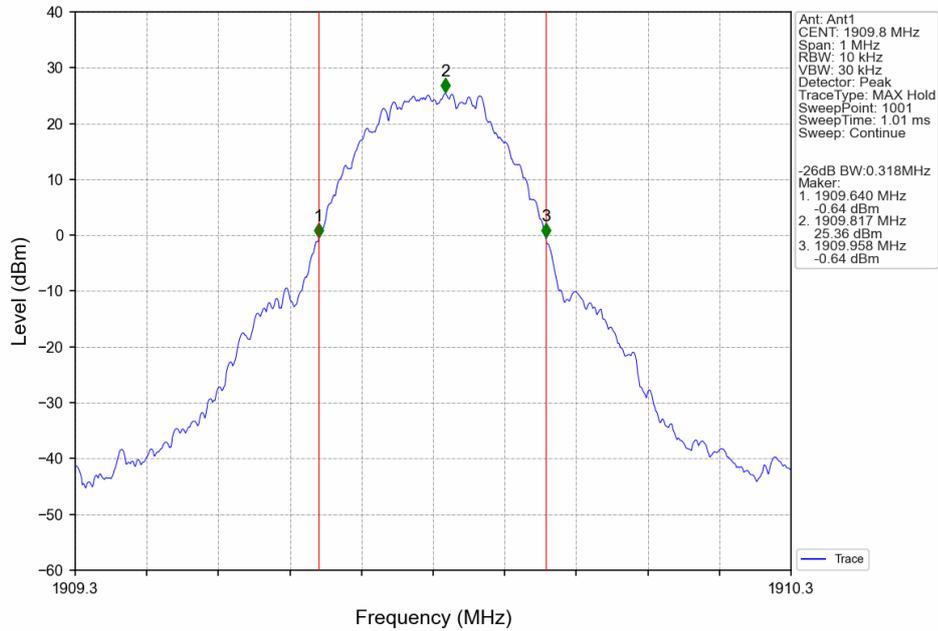




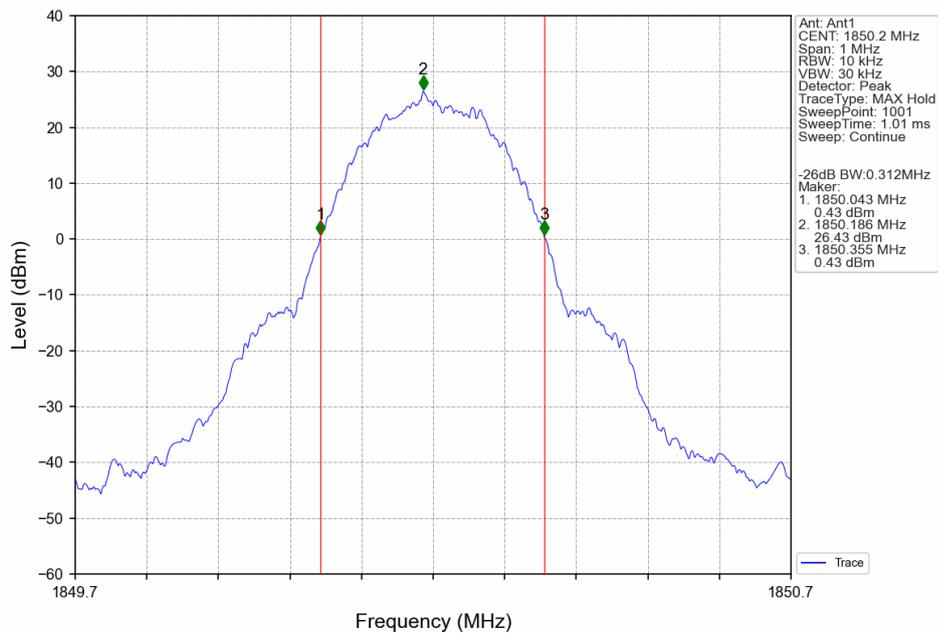
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VERITAS

Test Report No.: PSU-NQN2504150110RF02

PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV

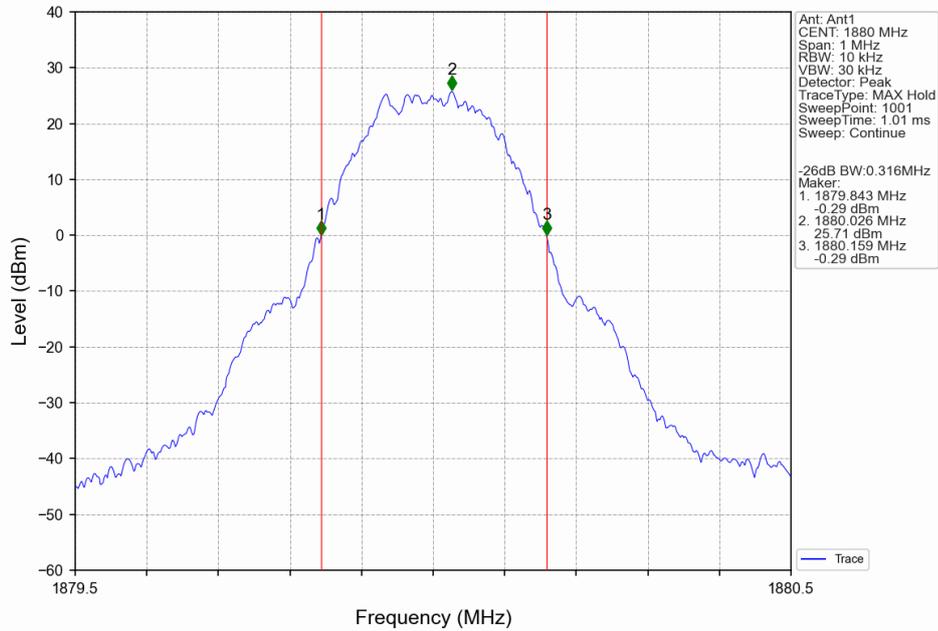




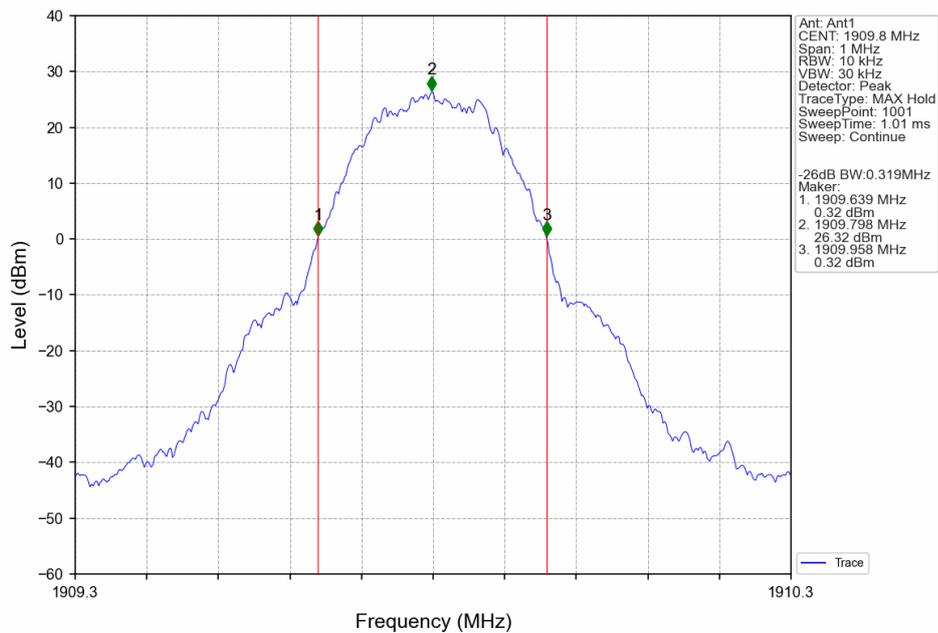
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VERITAS

Test Report No.: PSU-NQN2504150110RF02

PCS1900_GPRS_MCH_1880MHz_1 TX Slot_NTNV



PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV





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Test Report No.: PSU-NQN2504150110RF02

BAND EDGE AND SPURIOUS EMISSION

Test Result

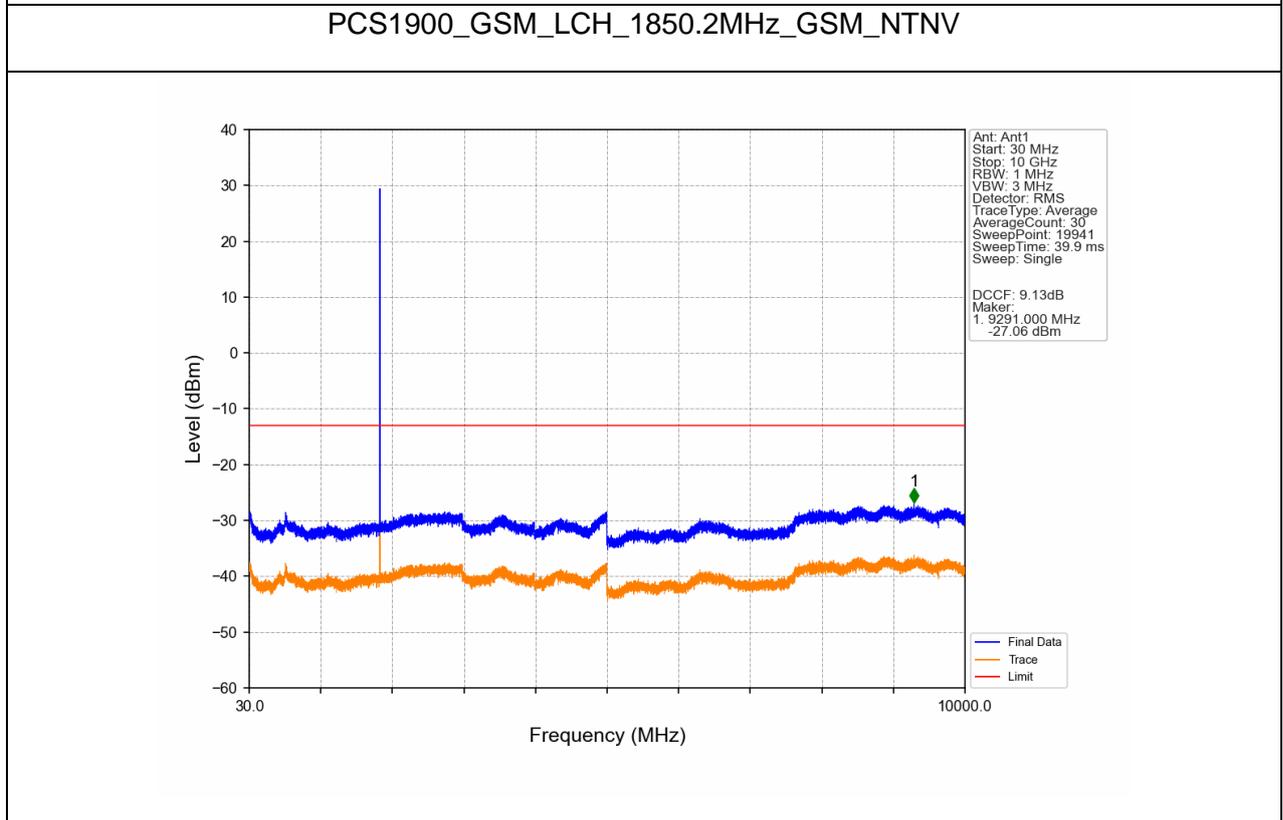
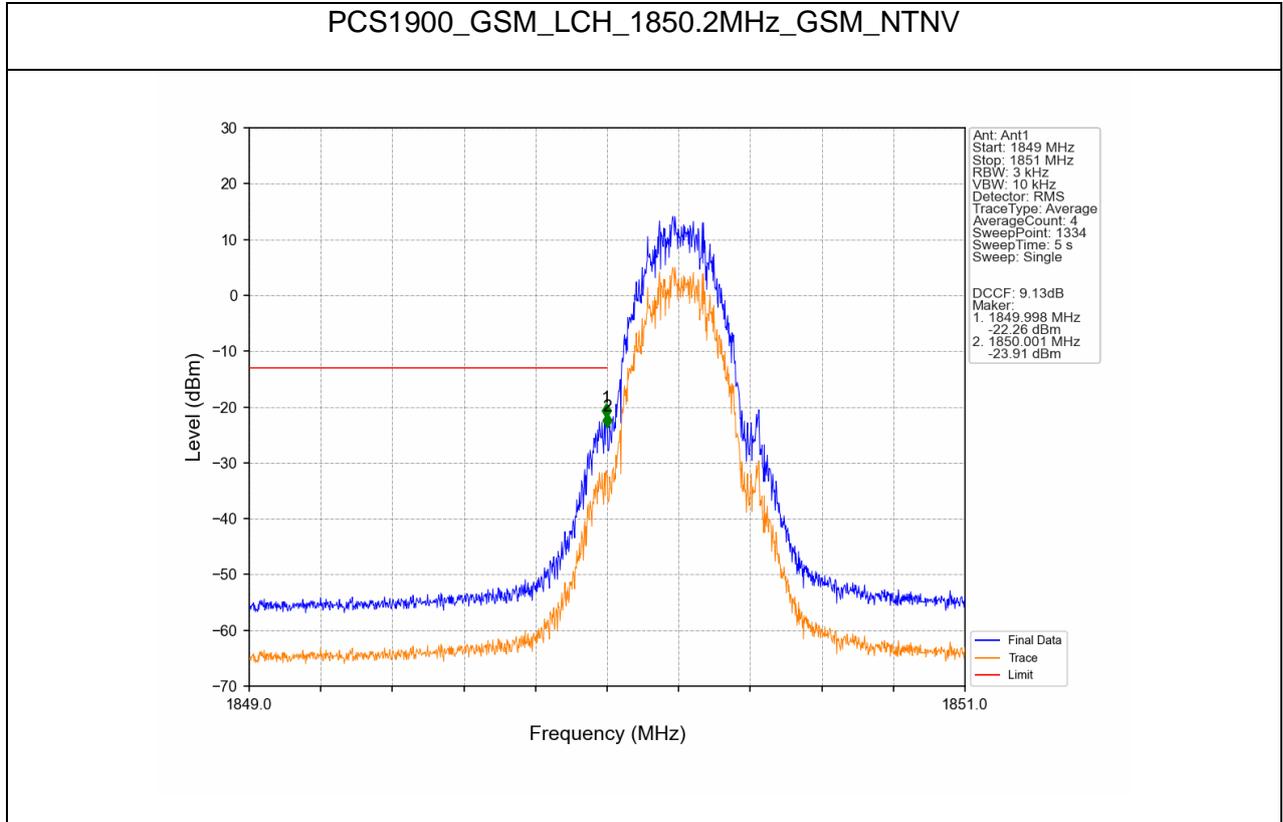
Band: PCS1900						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	GSM	GSM	1850.2	Refer To Test Graph	-13	Pass
			1880	Refer To Test Graph	-13	Pass
			1909.8	Refer To Test Graph	-13	Pass
	GPRS	1 TX Slot	1850.2	Refer To Test Graph	-13	Pass
			1880	Refer To Test Graph	-13	Pass
			1909.8	Refer To Test Graph	-13	Pass



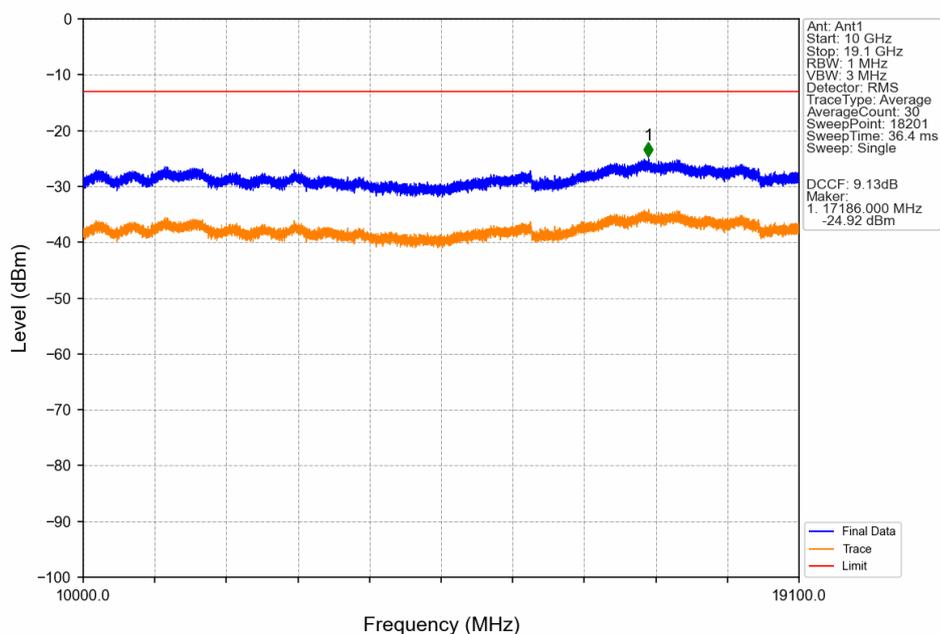
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VERITAS

Test Report No.: PSU-NQN2504150110RF02

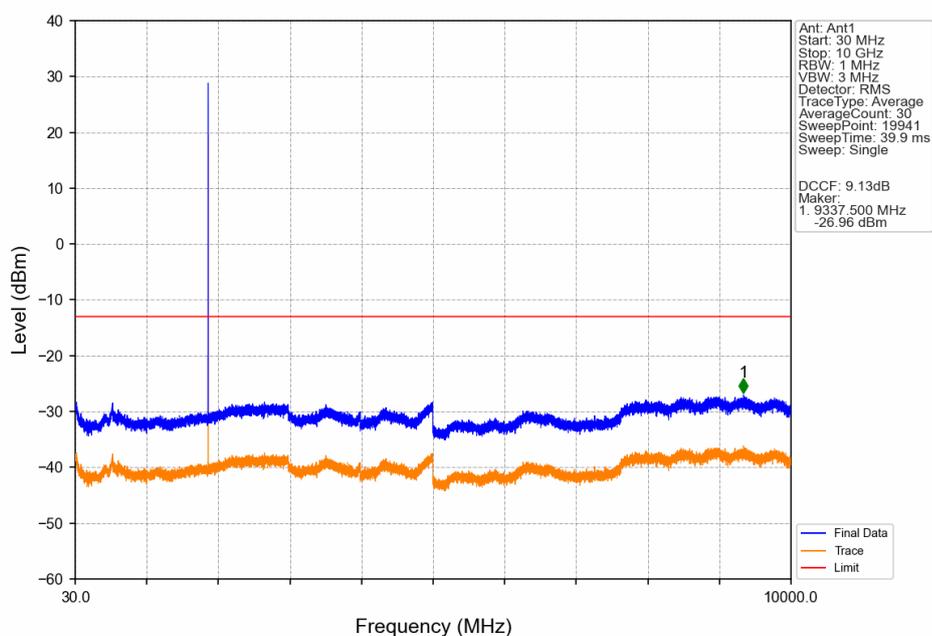
Test Graphs



PCS1900_GSM_LCH_1850.2MHz_GSM_NTNV



PCS1900_GSM_MCH_1880MHz_GSM_NTNV

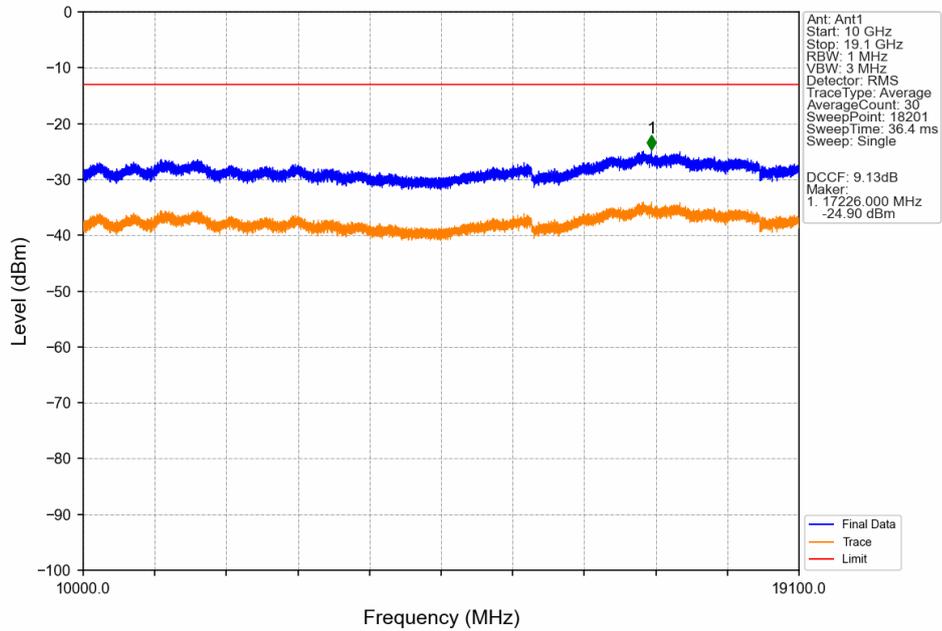




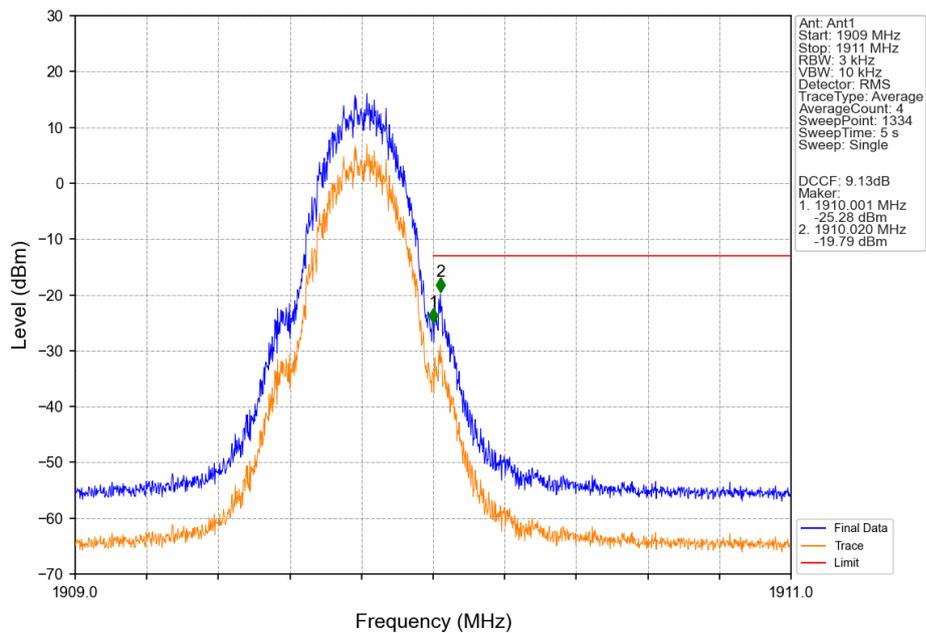
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

PCS1900_GSM_MCH_1880MHz_GSM_NTNV



PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV

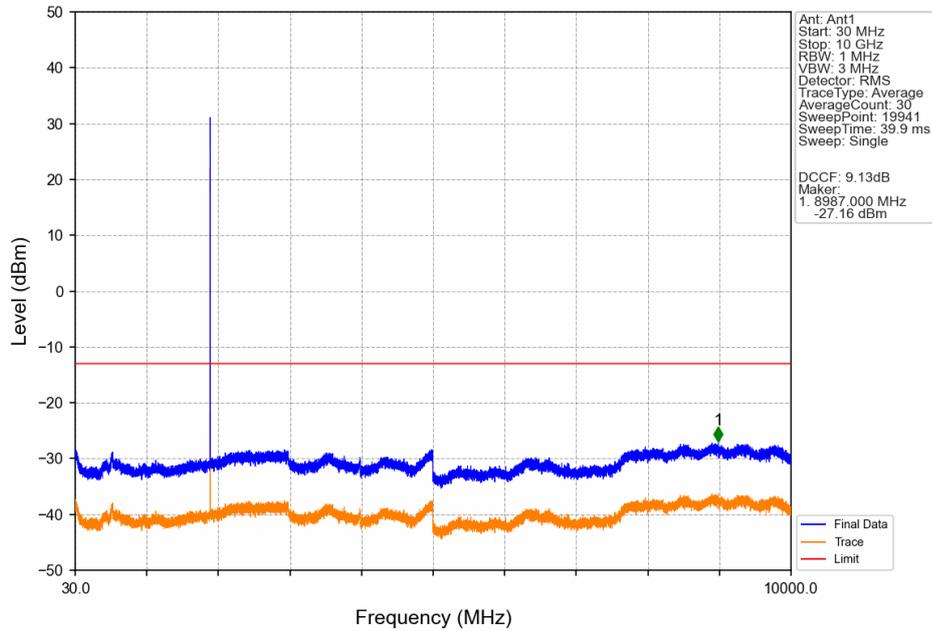




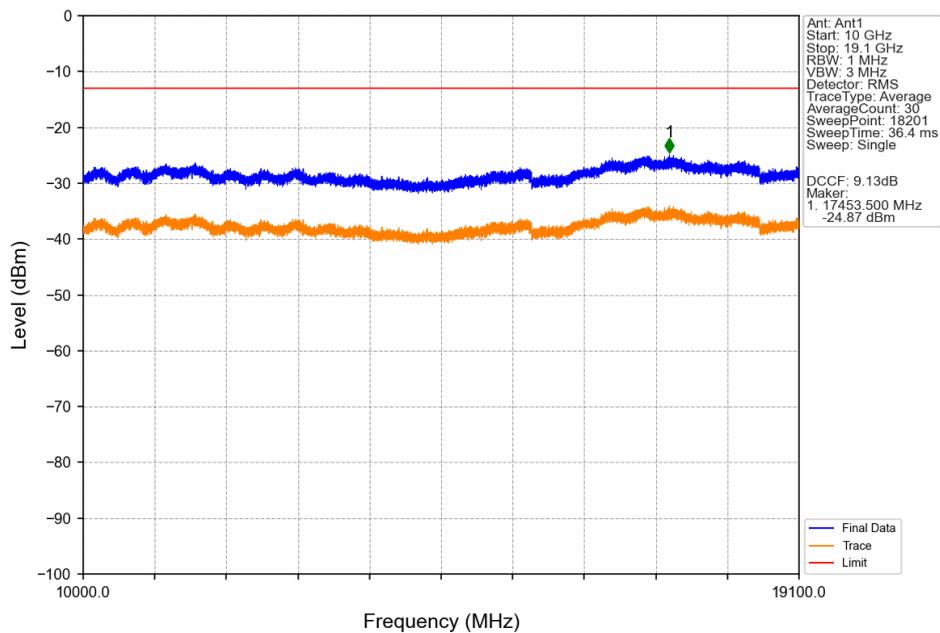
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VERITAS

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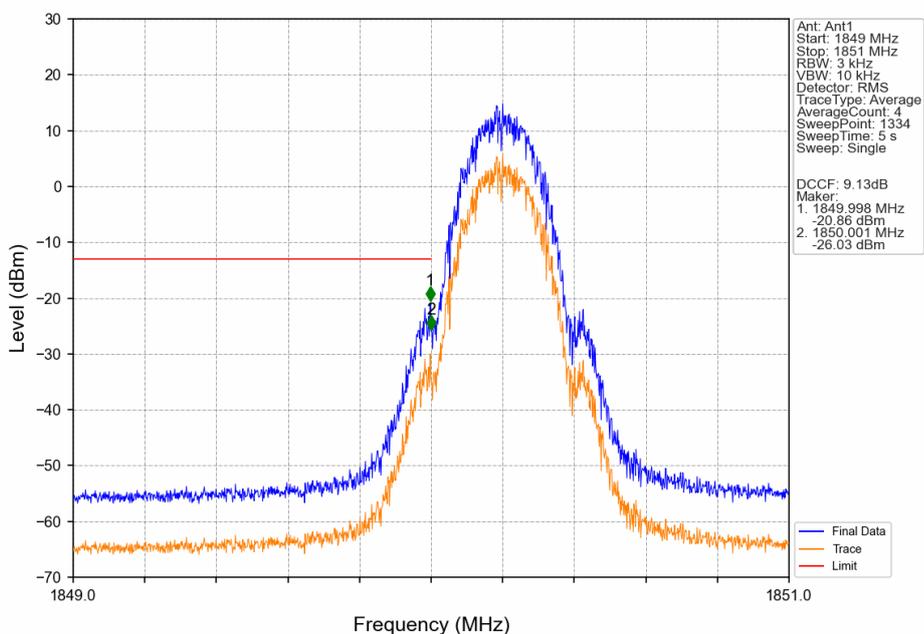
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



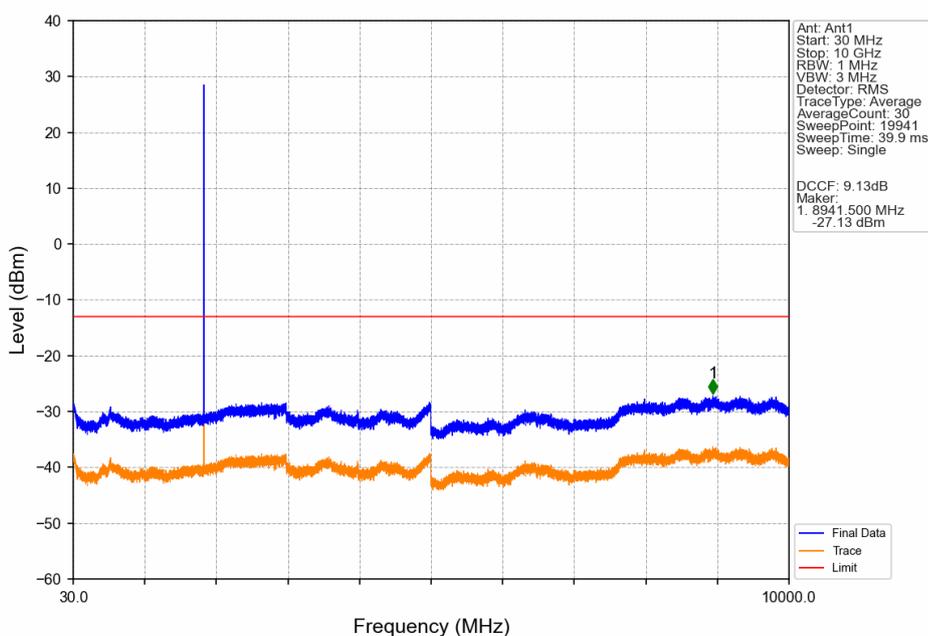
PCS1900_GSM_HCH_1909.8MHz_GSM_NTNV



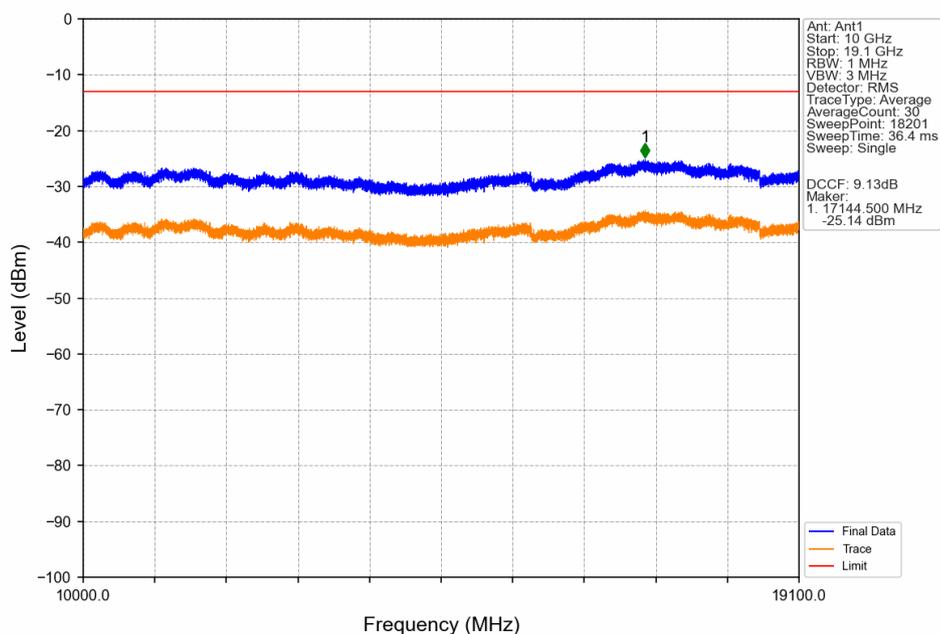
PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV



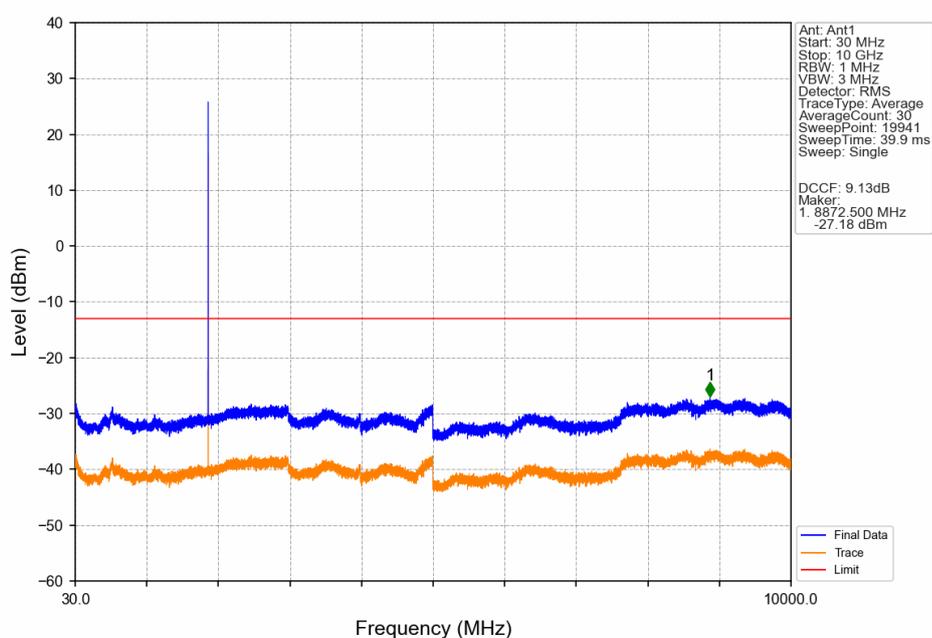
PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV

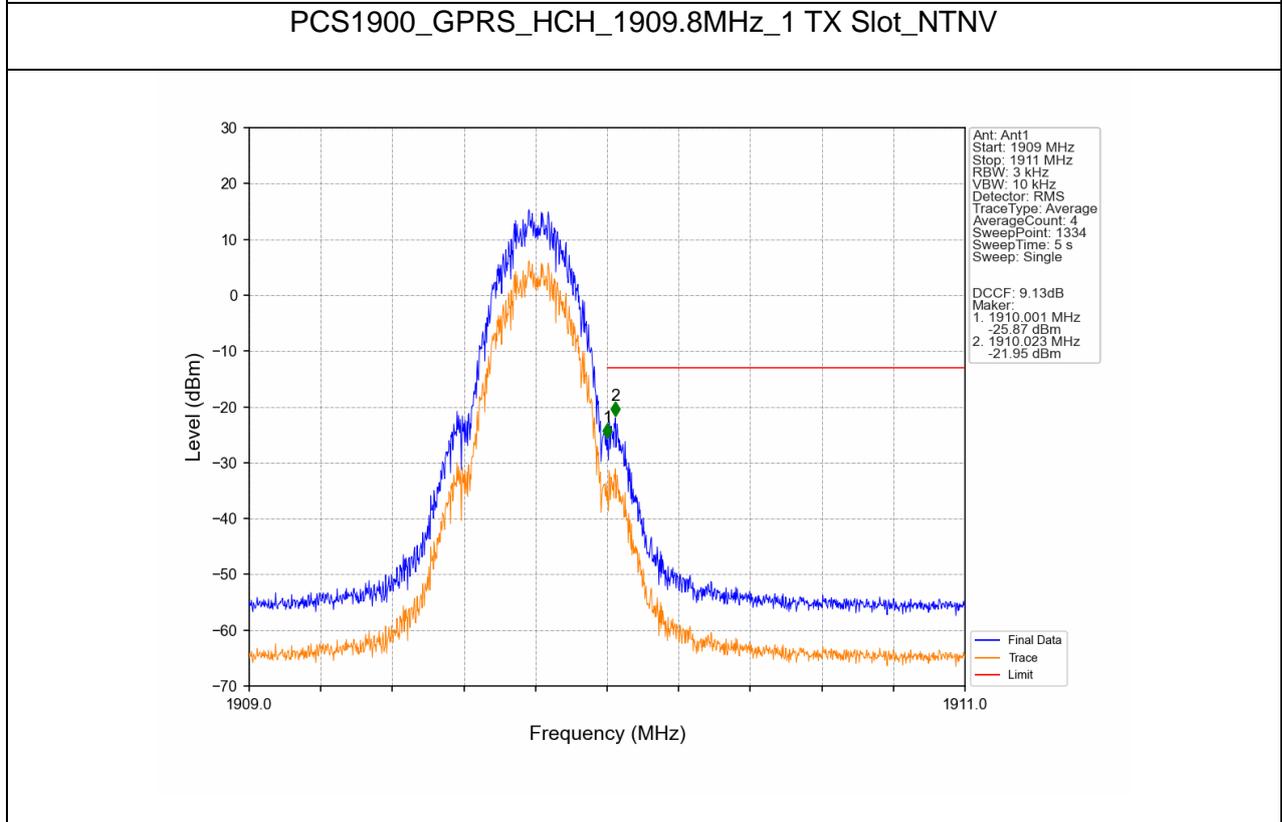
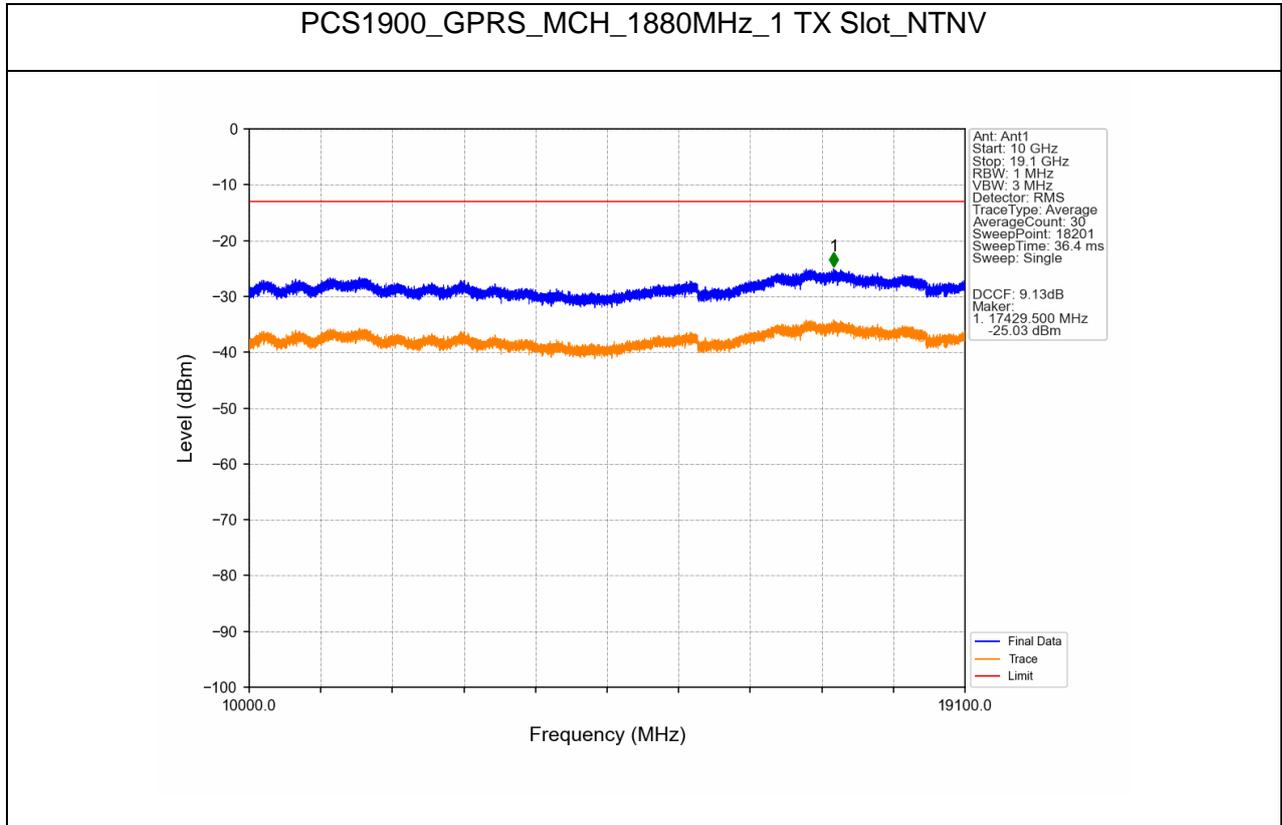


PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV

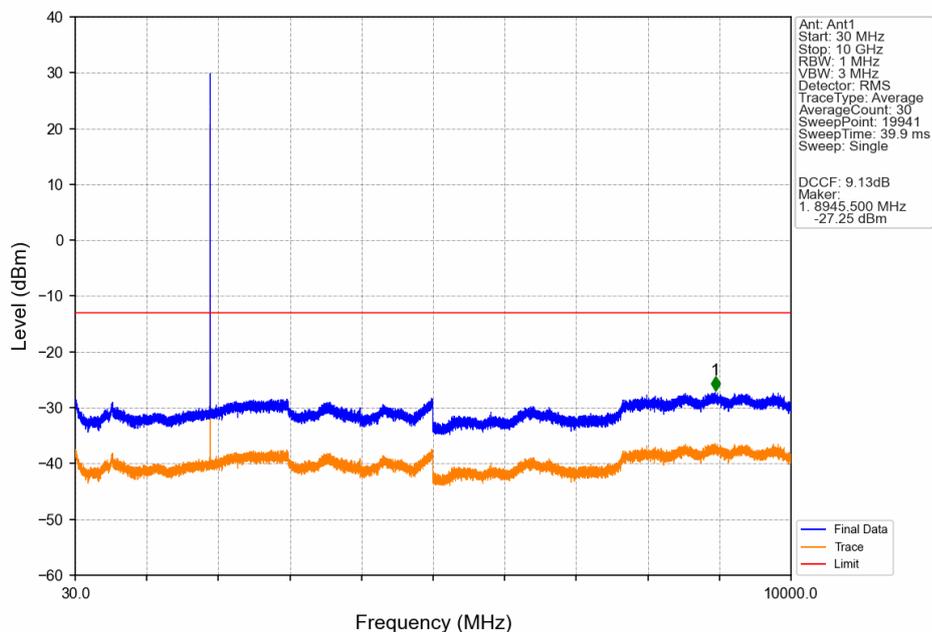


PCS1900_GPRS_MCH_1880MHz_1 TX Slot_NTNV

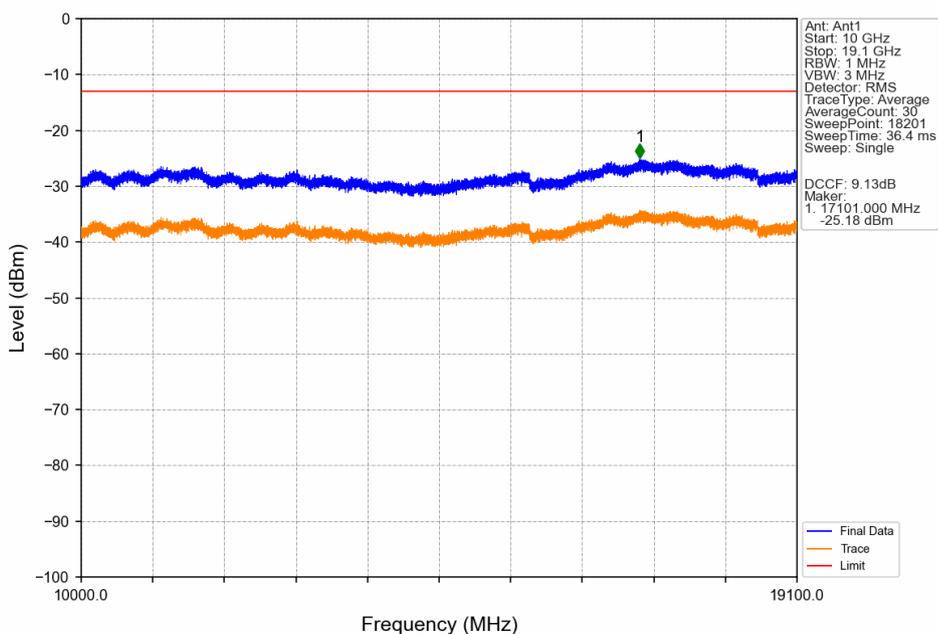




PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV



PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV





FREQUENCY STABILITY

Test Result

Band: PCS1900								
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict	
					Result	Limit		
GSM	1850.2	20	3.4	3.261	0.0018	-2.5 to 2.5	Pass	
			4	5.973	0.0032	-2.5 to 2.5	Pass	
			4.6	4.811	0.0026	-2.5 to 2.5	Pass	
		5	4	1.582	0.0009	-2.5 to 2.5	Pass	
		15	4	5.327	0.0029	-2.5 to 2.5	Pass	
		25	4	4.326	0.0023	-2.5 to 2.5	Pass	
	1880	20	3.4	3.358	0.0018	-2.5 to 2.5	Pass	
			4	8.201	0.0044	-2.5 to 2.5	Pass	
			4.6	4.746	0.0025	-2.5 to 2.5	Pass	
		5	4	6.328	0.0034	-2.5 to 2.5	Pass	
		15	4	2.647	0.0014	-2.5 to 2.5	Pass	
		25	4	5.876	0.0031	-2.5 to 2.5	Pass	
	1909.8	20	3.4	5.715	0.0030	-2.5 to 2.5	Pass	
			4	6.005	0.0031	-2.5 to 2.5	Pass	
			4.6	4.165	0.0022	-2.5 to 2.5	Pass	
		5	4	5.876	0.0031	-2.5 to 2.5	Pass	
		15	4	7.167	0.0038	-2.5 to 2.5	Pass	
		25	4	3.971	0.0021	-2.5 to 2.5	Pass	
	GPRS	1850.2	20	3.4	18.435	0.0100	-2.5 to 2.5	Pass
				4	15.400	0.0083	-2.5 to 2.5	Pass
				4.6	16.498	0.0089	-2.5 to 2.5	Pass
			5	4	15.497	0.0084	-2.5 to 2.5	Pass
			15	4	16.078	0.0087	-2.5 to 2.5	Pass
			25	4	16.078	0.0087	-2.5 to 2.5	Pass
1880		20	3.4	17.822	0.0095	-2.5 to 2.5	Pass	
			4	19.468	0.0104	-2.5 to 2.5	Pass	
			4.6	18.145	0.0097	-2.5 to 2.5	Pass	
		5	4	18.016	0.0096	-2.5 to 2.5	Pass	
		15	4	17.725	0.0094	-2.5 to 2.5	Pass	
		25	4	18.952	0.0101	-2.5 to 2.5	Pass	
1909.8		20	3.4	17.241	0.0090	-2.5 to 2.5	Pass	
			4	16.756	0.0088	-2.5 to 2.5	Pass	
			4.6	15.659	0.0082	-2.5 to 2.5	Pass	
		5	4	16.111	0.0084	-2.5 to 2.5	Pass	
		15	4	17.144	0.0090	-2.5 to 2.5	Pass	
		25	4	16.272	0.0085	-2.5 to 2.5	Pass	
35		4	14.335	0.0075	-2.5 to 2.5	Pass		



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Test Report No.: PSU-NQN2504150110RF02

WCDMA BAND2

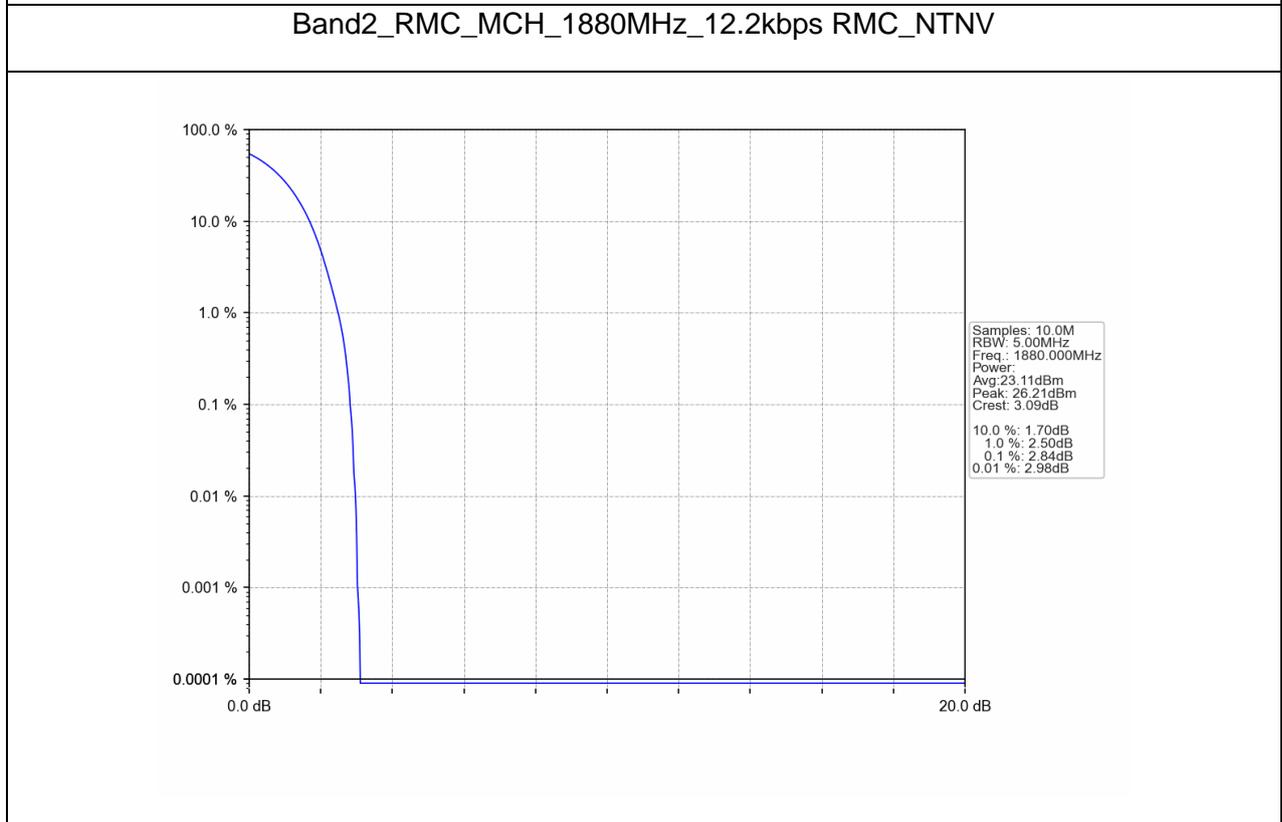
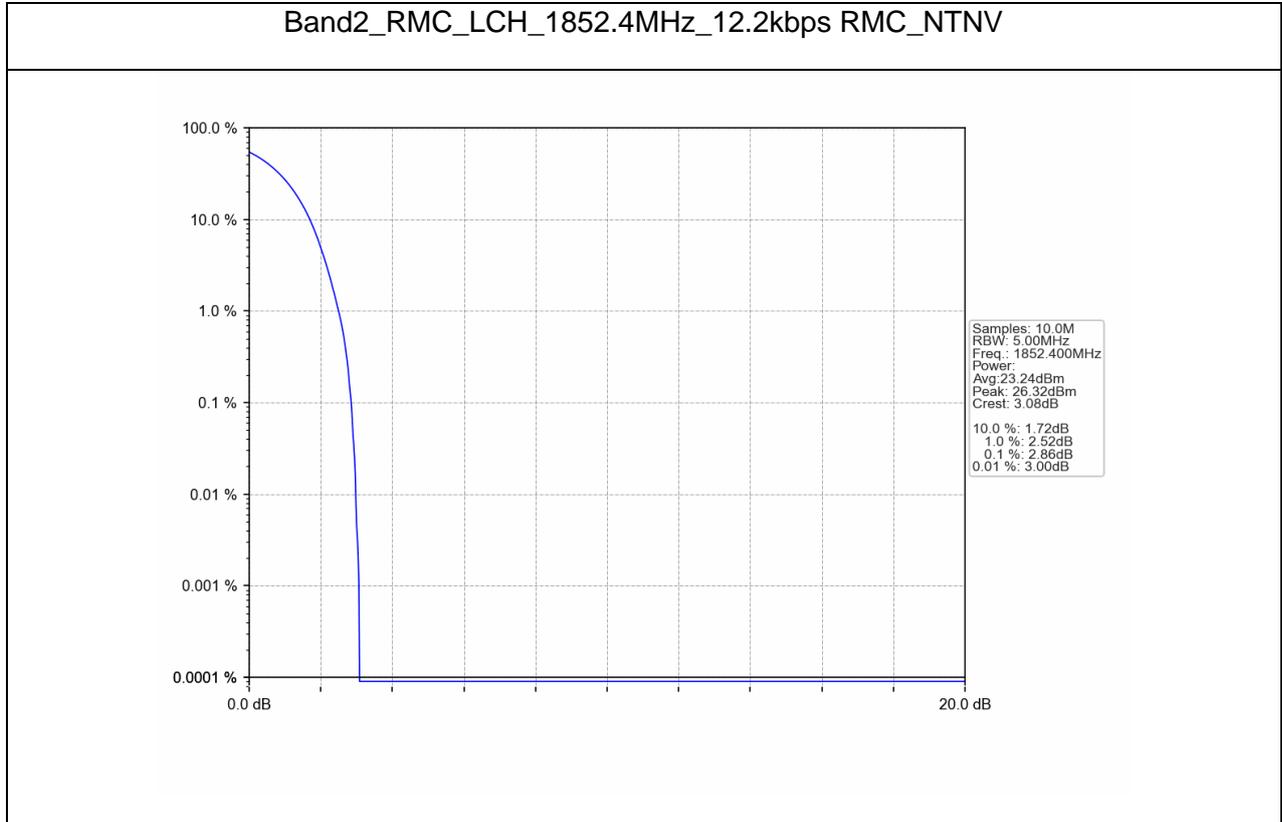
PEAK-TO-AVERAGE RATIO

Test Result

WCDMA BAND2						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1852.4	2.86	<=13	Pass
			1880	2.84	<=13	Pass
			1907.6	2.88	<=13	Pass
	HSDPA	Subtest 1	1852.4	5.78	<=13	Pass
			1880	5.72	<=13	Pass
			1907.6	5.80	<=13	Pass
	HSUPA	Subtest 1	1852.4	6.44	<=13	Pass
			1880	6.36	<=13	Pass
			1907.6	6.42	<=13	Pass

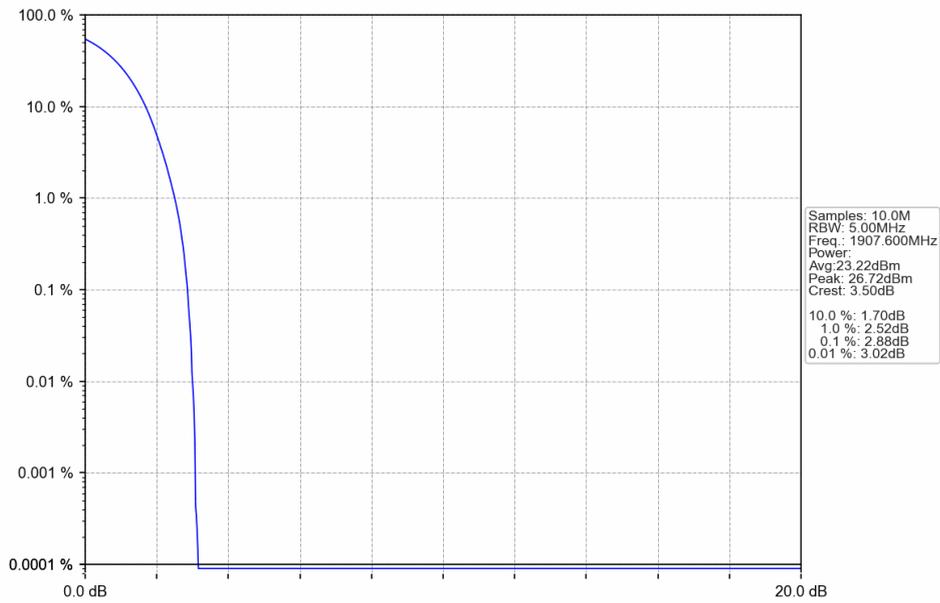


Test Graphs

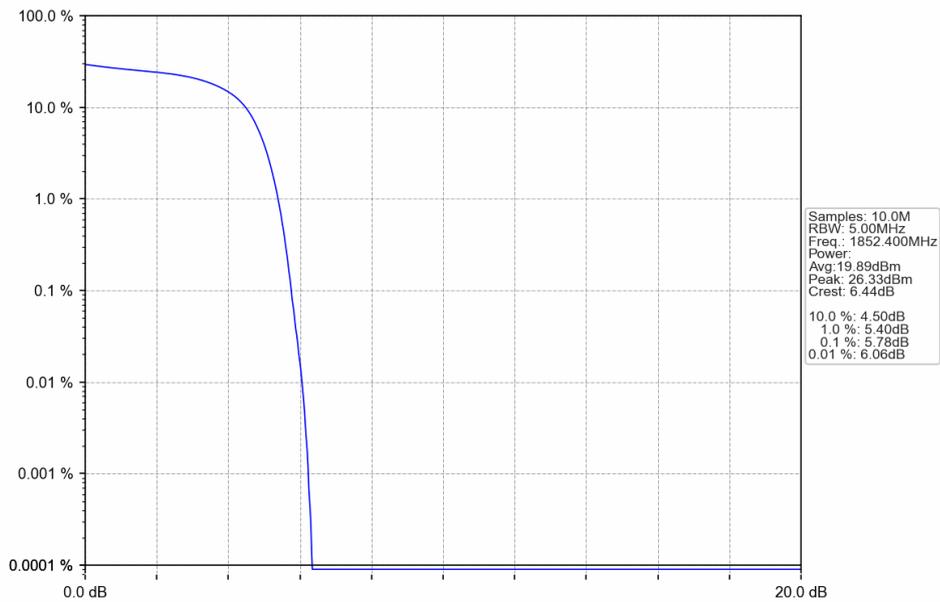




Band2_RMC_HCH_1907.6MHz_12.2kbps RMC_NTNV



Band2_HSDPA_LCH_1852.4MHz_Subtest 1_NTNV

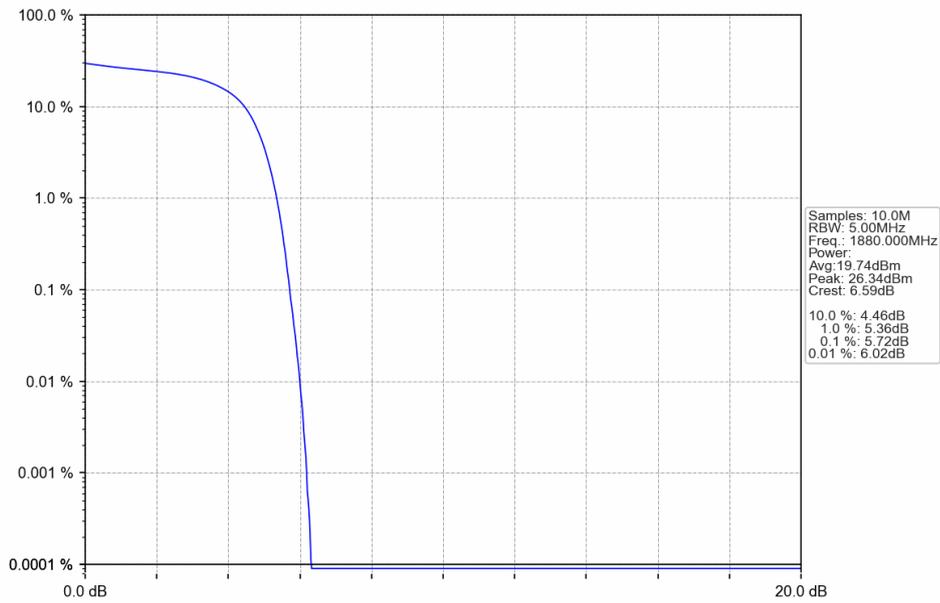




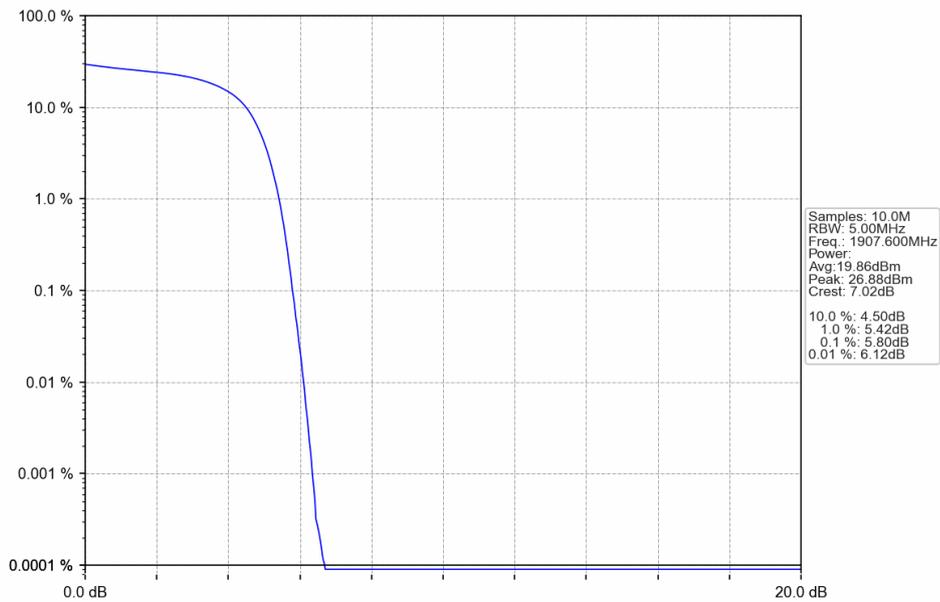
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSDPA_MCH_1880MHz_Subtest 1_NTNV



Band2_HSDPA_HCH_1907.6MHz_Subtest 1_NTNV

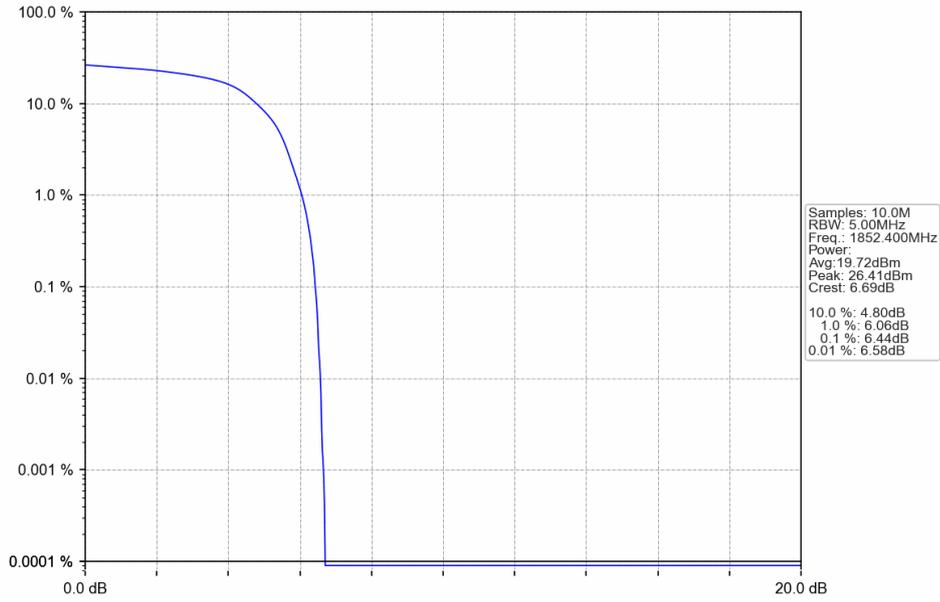




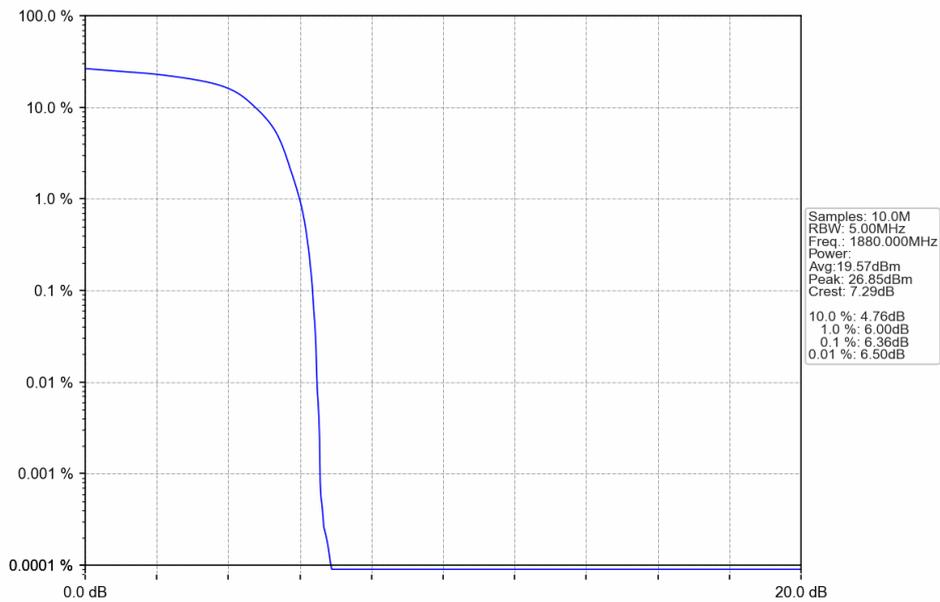
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSUPA_LCH_1852.4MHz_Subtest 1_NTNV



Band2_HSUPA_MCH_1880MHz_Subtest 1_NTNV

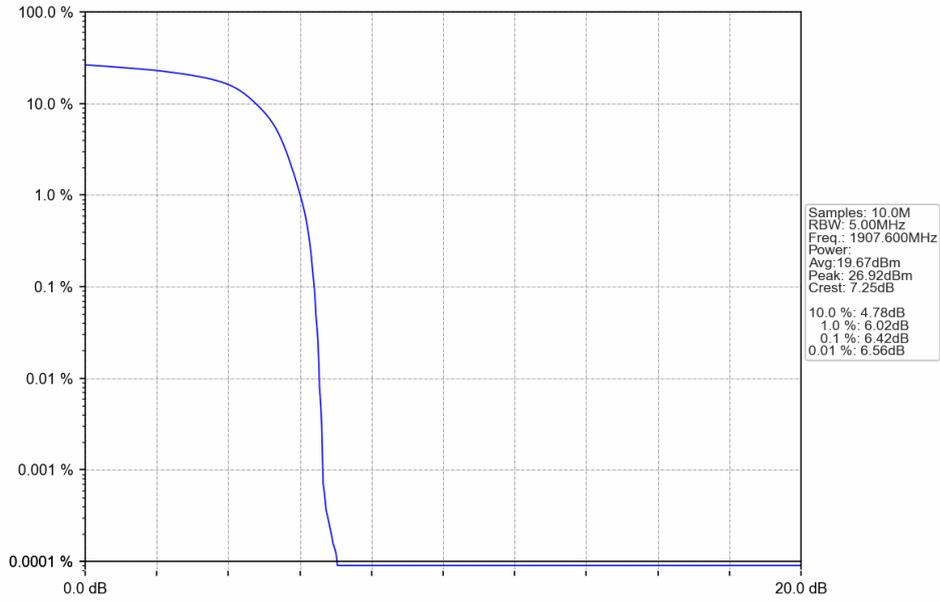




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Test Report No.: PSU-NQN2504150110RF02

Band2_HSUPA_HCH_1907.6MHz_Subtest 1_NTNV





26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

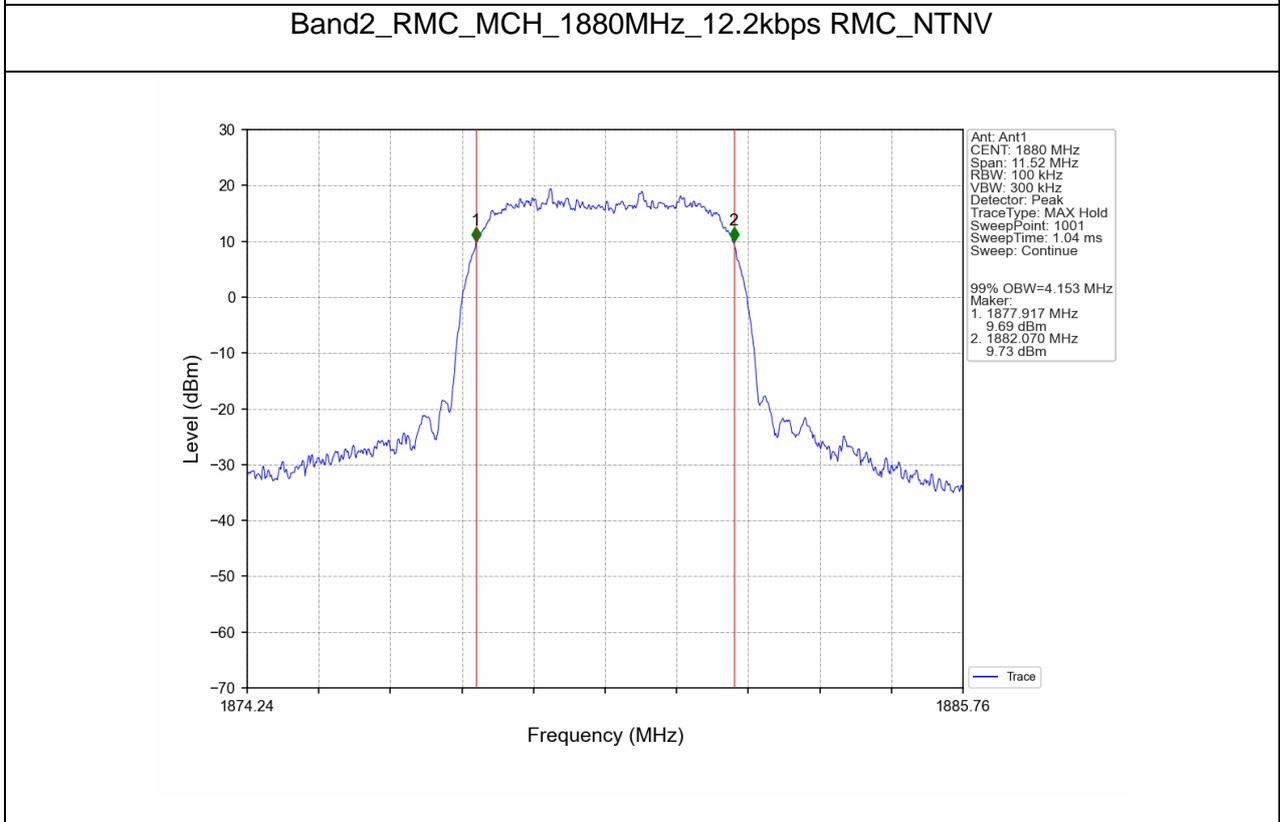
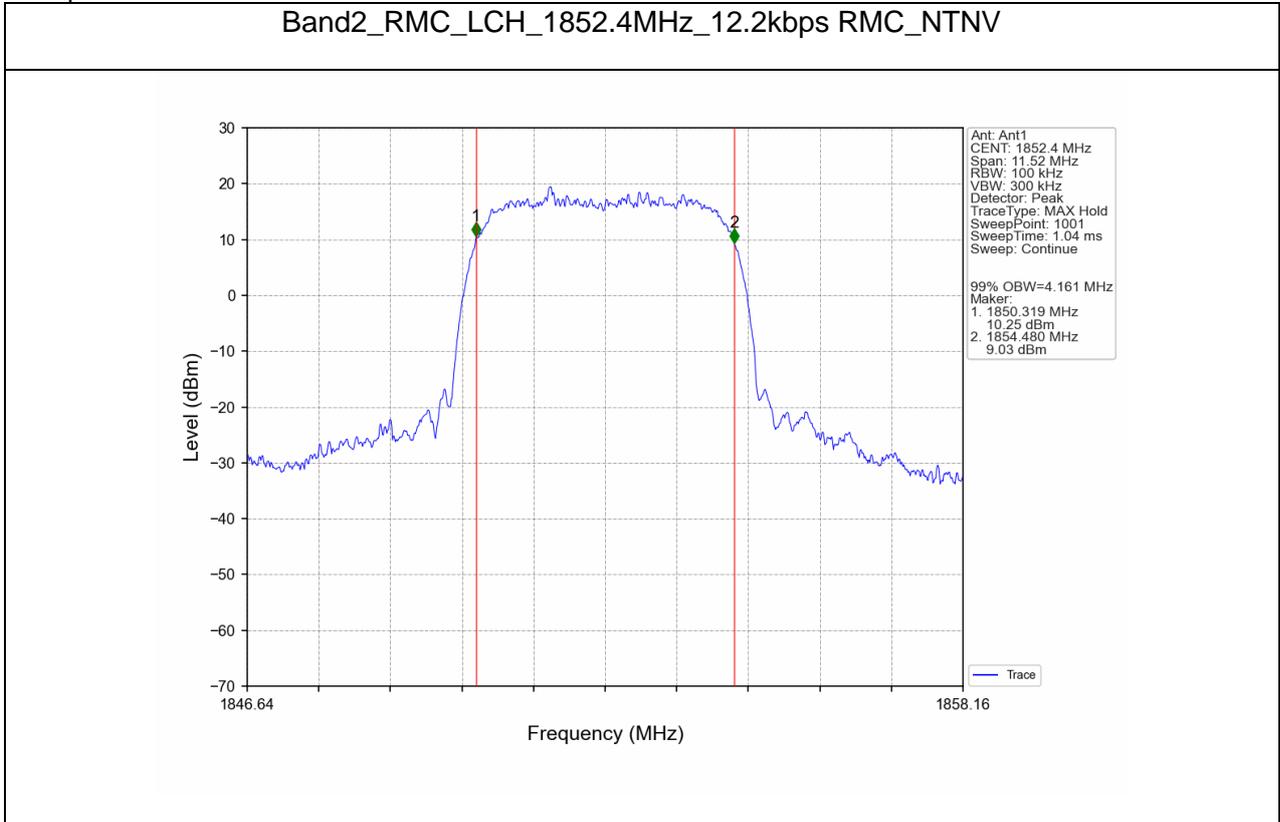
WCDMA BAND2						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1852.4	4.161	/	Pass
			1880	4.153	/	Pass
			1907.6	4.159	/	Pass
	HSDPA	Subtest 1	1852.4	4.169	/	Pass
			1880	4.155	/	Pass
			1907.6	4.159	/	Pass
	HSUPA	Subtest 1	1852.4	4.161	/	Pass
			1880	4.168	/	Pass
			1907.6	4.174	/	Pass

WCDMA BAND2						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1852.4	4.729	/	Pass
			1880	4.734	/	Pass
			1907.6	4.735	/	Pass
	HSDPA	Subtest 1	1852.4	4.732	/	Pass
			1880	4.736	/	Pass
			1907.6	4.727	/	Pass
	HSUPA	Subtest 1	1852.4	4.703	/	Pass
			1880	4.726	/	Pass
			1907.6	4.761	/	Pass

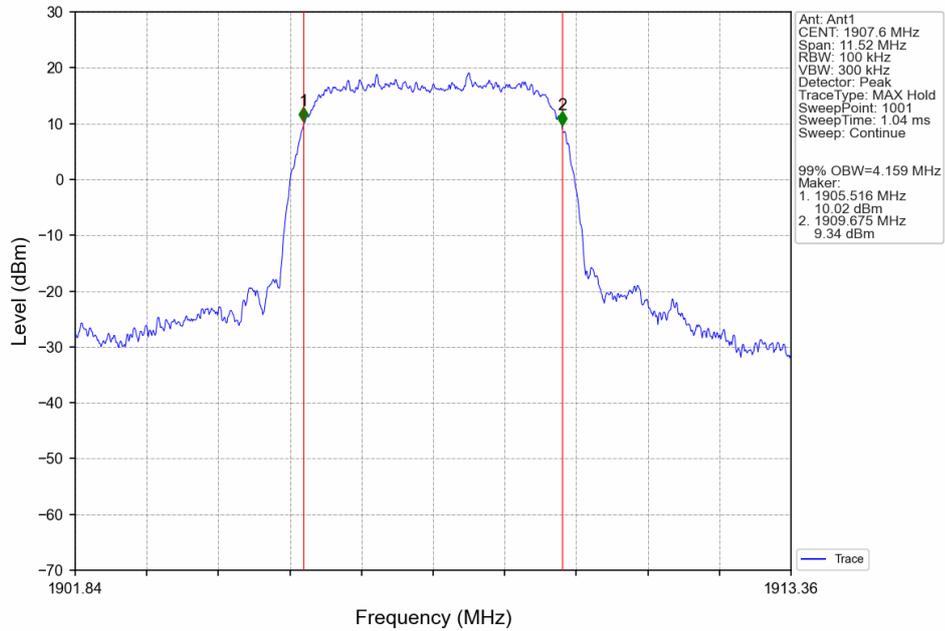


Test Graphs

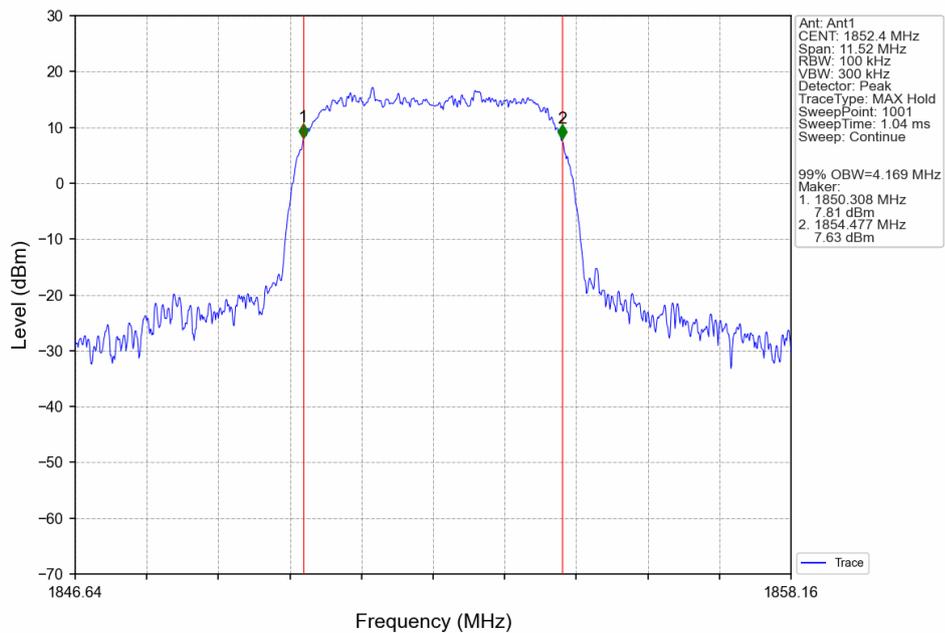
Occupied Bandwidth



Band2_RMC_HCH_1907.6MHz_12.2kbps RMC_NTNV



Band2_HSDPA_LCH_1852.4MHz_Subtest 1_NTNV

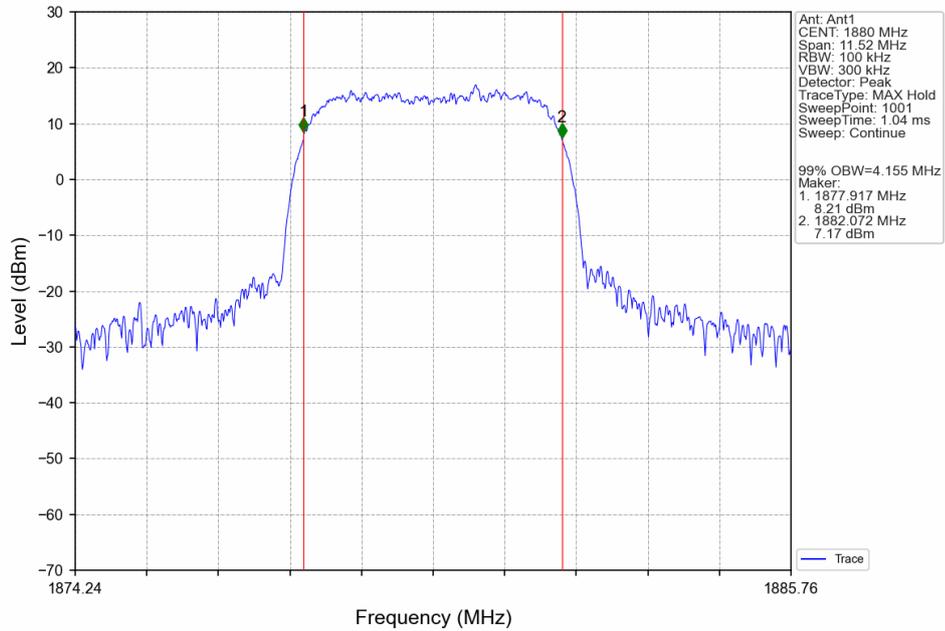




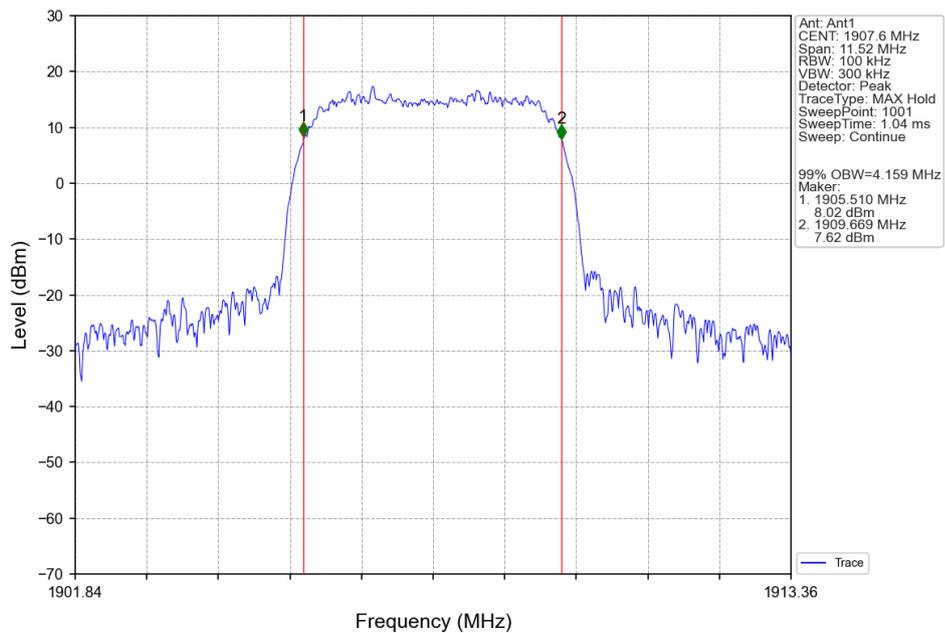
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSDPA_MCH_1880MHz_Subtest 1_NTNV



Band2_HSDPA_HCH_1907.6MHz_Subtest 1_NTNV

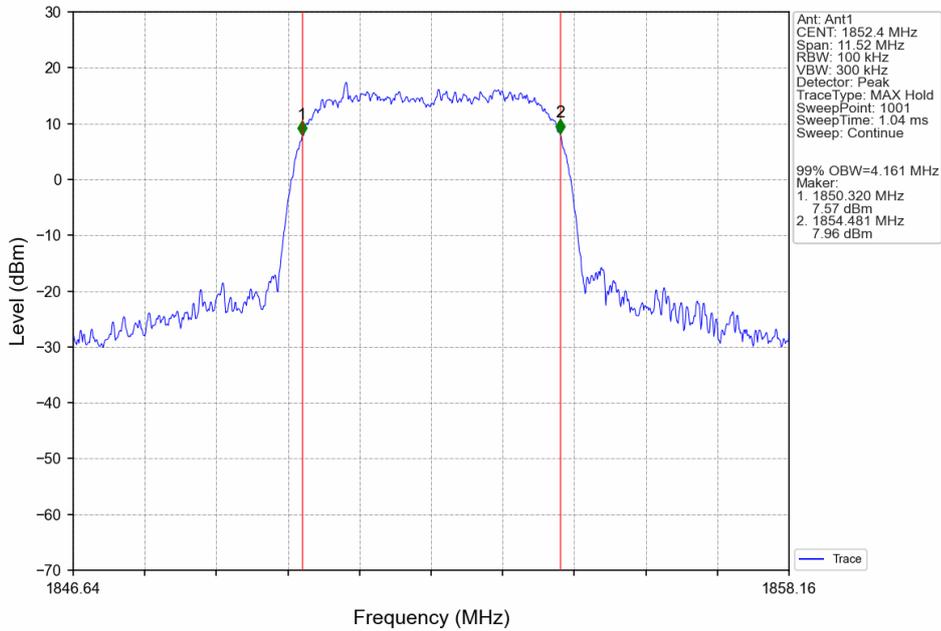




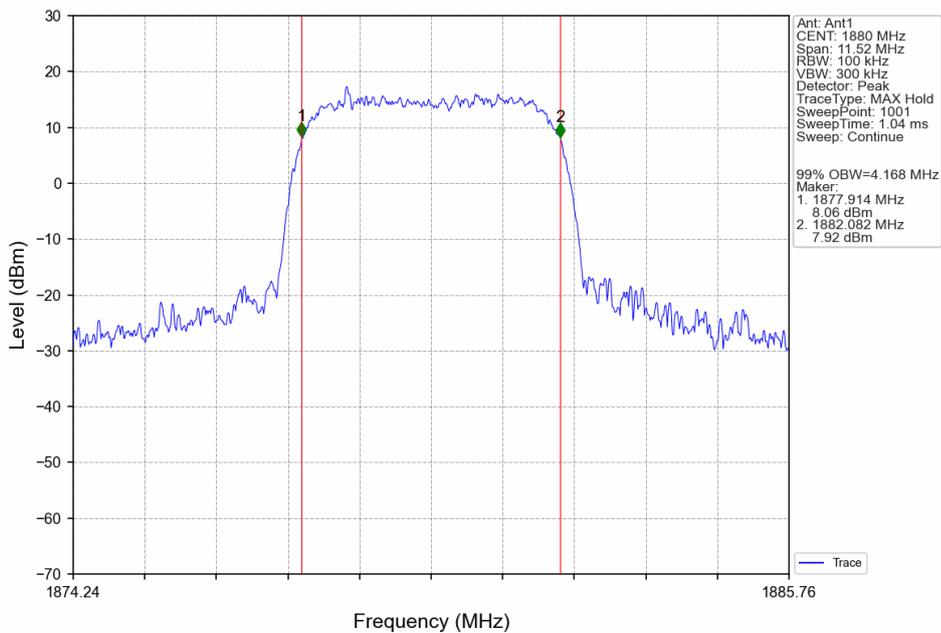
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSUPA_LCH_1852.4MHz_Subtest 1_NTNV



Band2_HSUPA_MCH_1880MHz_Subtest 1_NTNV

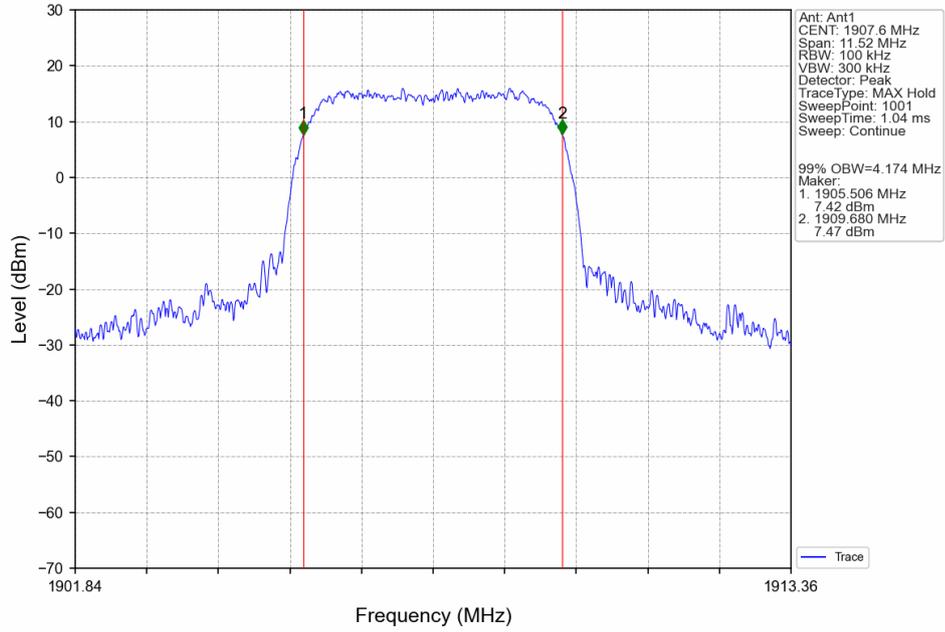




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VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSUPA_HCH_1907.6MHz_Subtest 1_NTNV

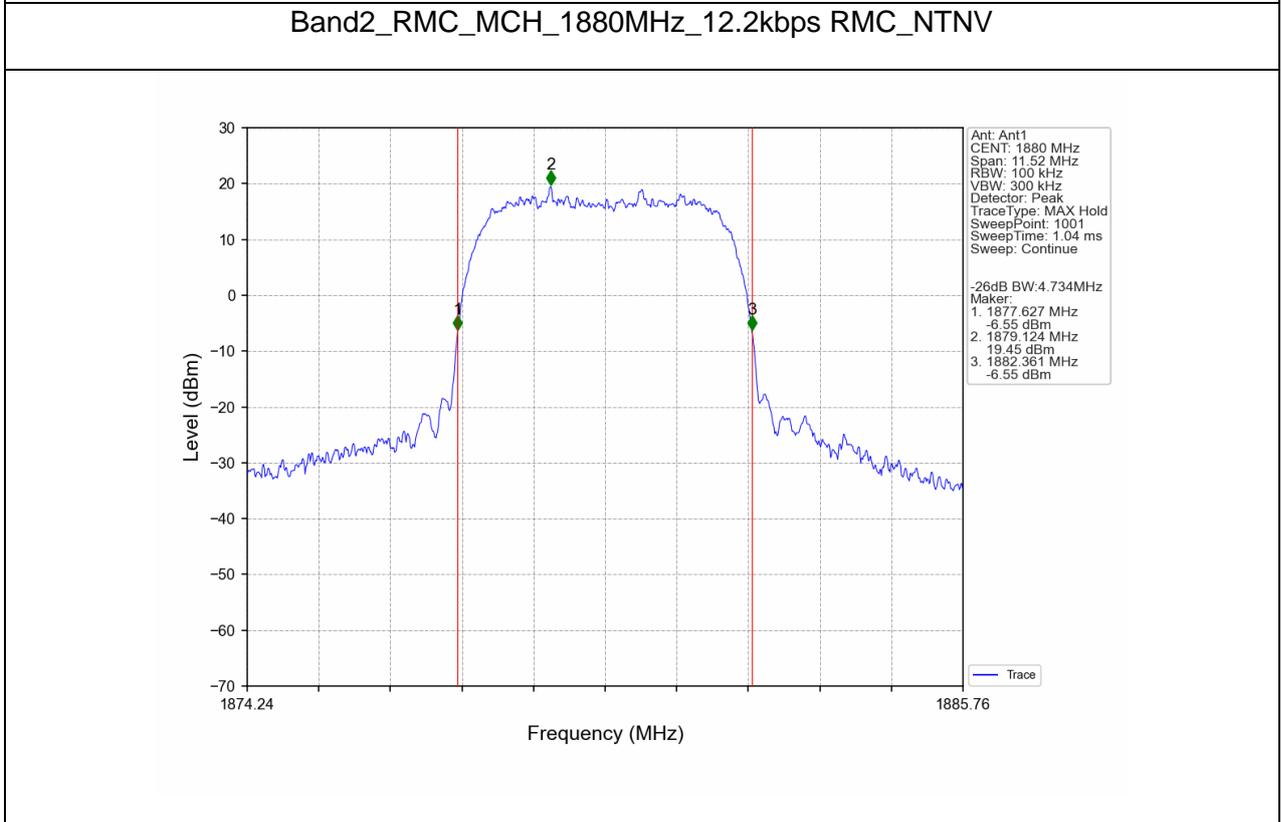
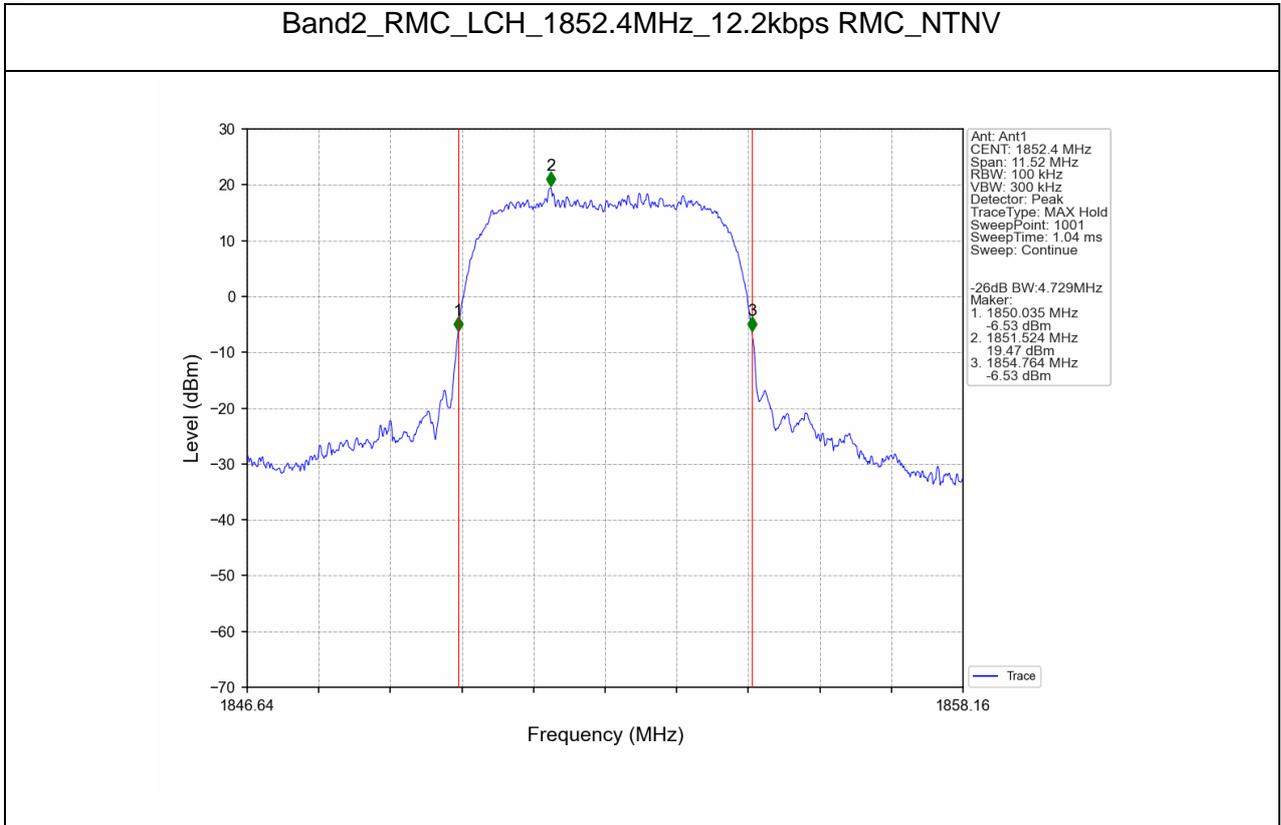




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Test Report No.: PSU-NQN2504150110RF02

26dB Bandwidth

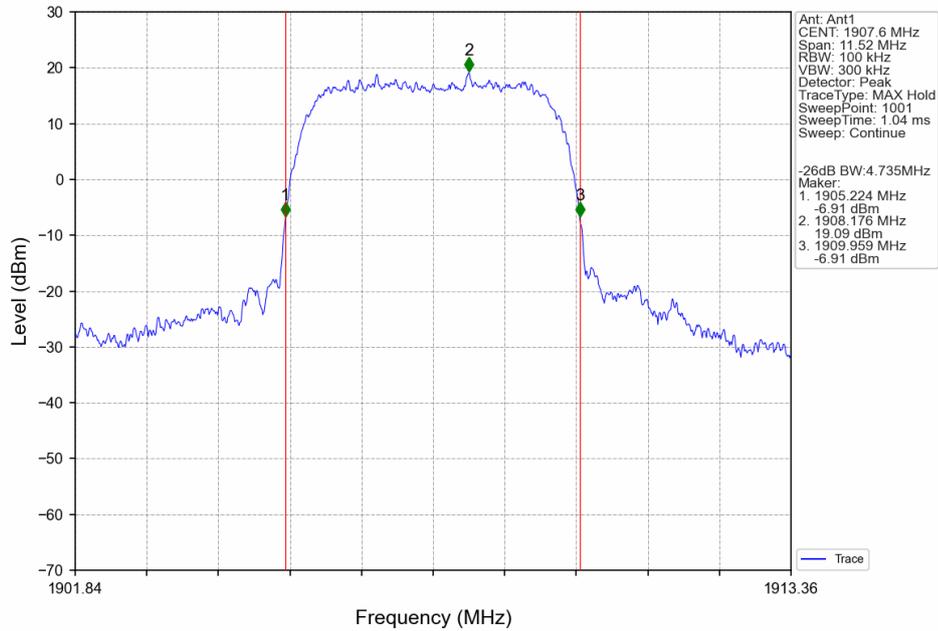




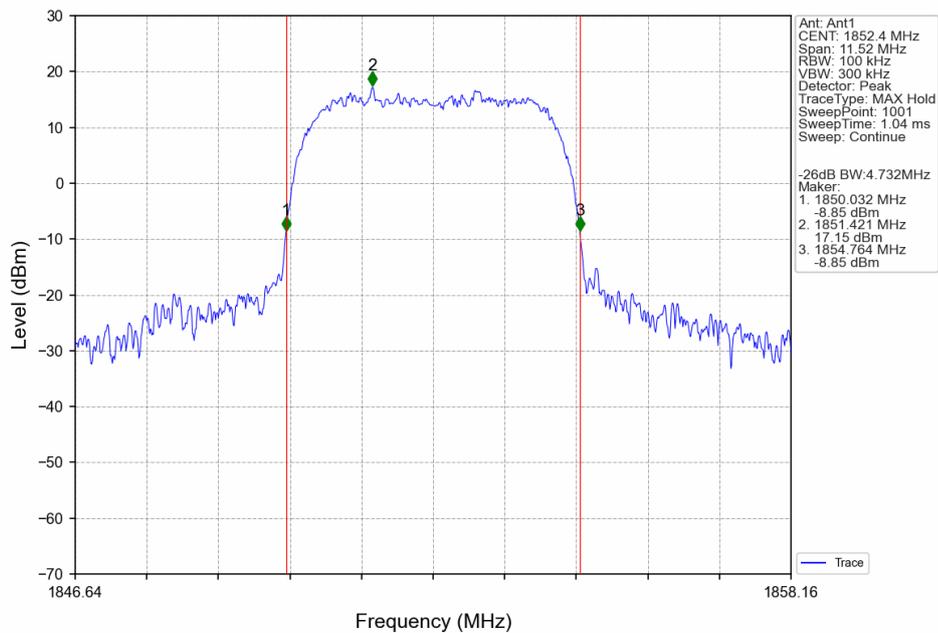
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_RMC_HCH_1907.6MHz_12.2kbps RMC_NTNV



Band2_HSDPA_LCH_1852.4MHz_Subtest 1_NTNV

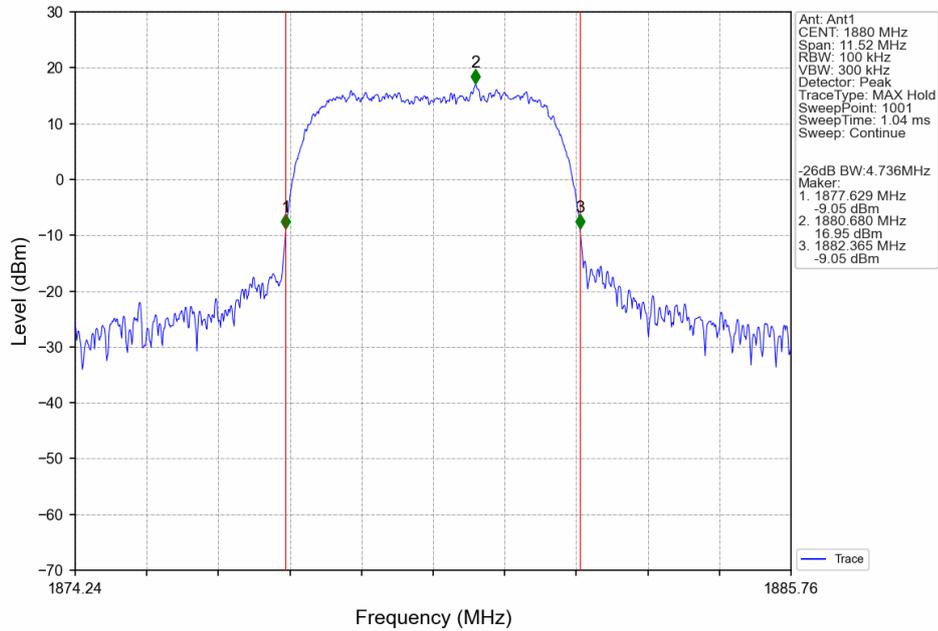




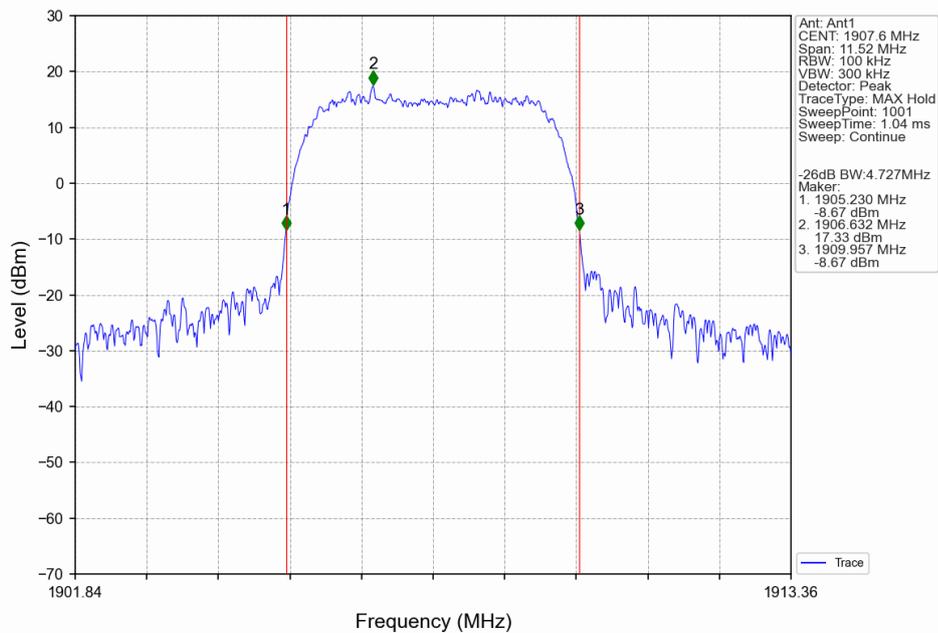
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSDPA_MCH_1880MHz_Subtest 1_NTNV



Band2_HSDPA_HCH_1907.6MHz_Subtest 1_NTNV

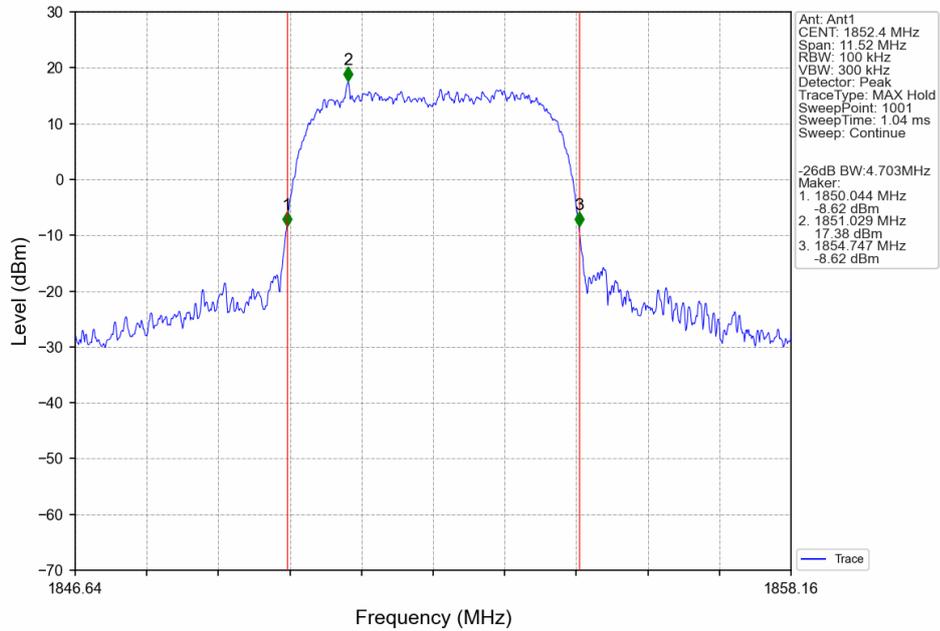




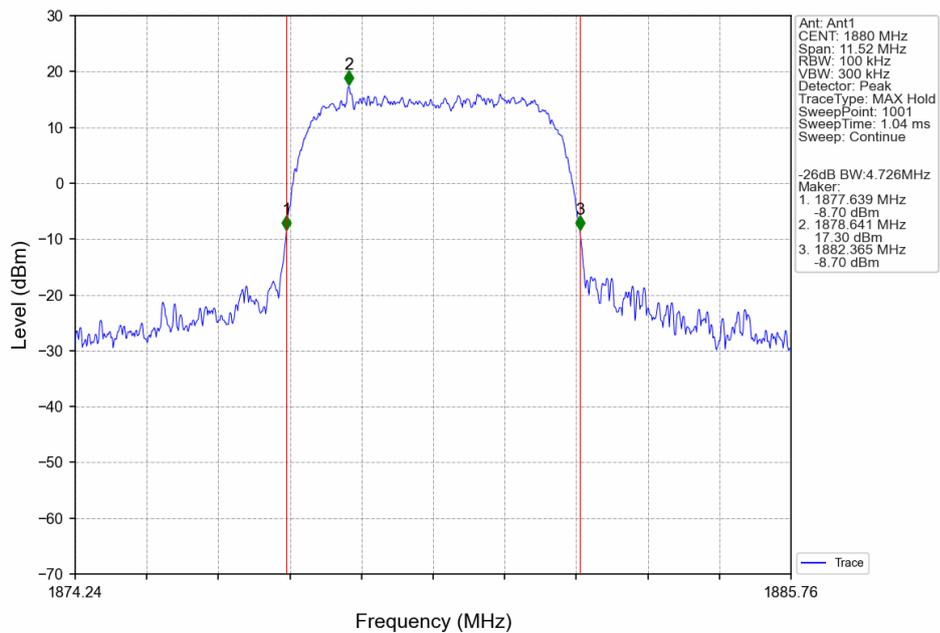
BUREAU
VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSUPA_LCH_1852.4MHz_Subtest 1_NTNV



Band2_HSUPA_MCH_1880MHz_Subtest 1_NTNV

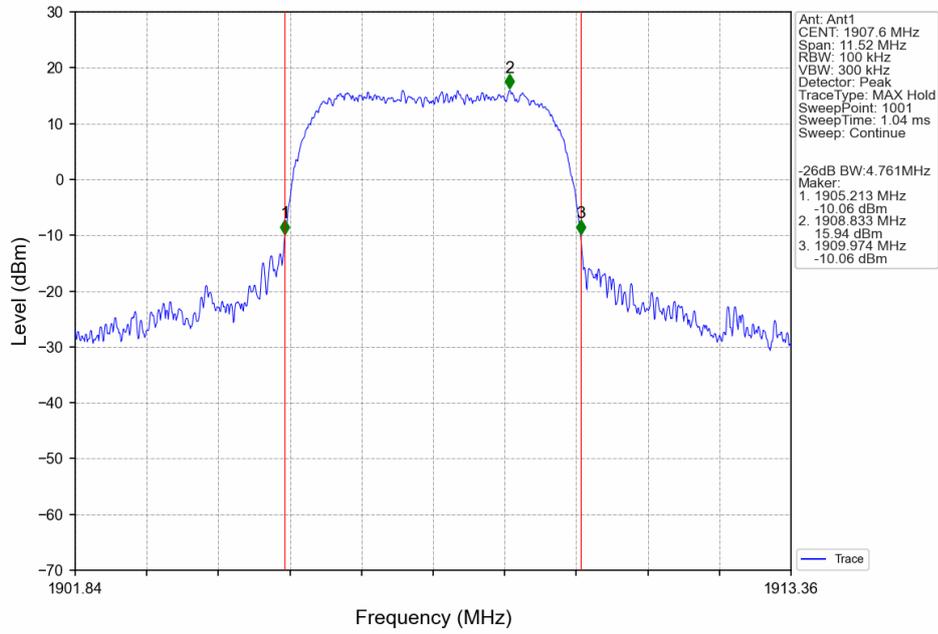




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Test Report No.: PSU-NQN2504150110RF02

Band2_HSUPA_HCH_1907.6MHz_Subtest 1_NTNV





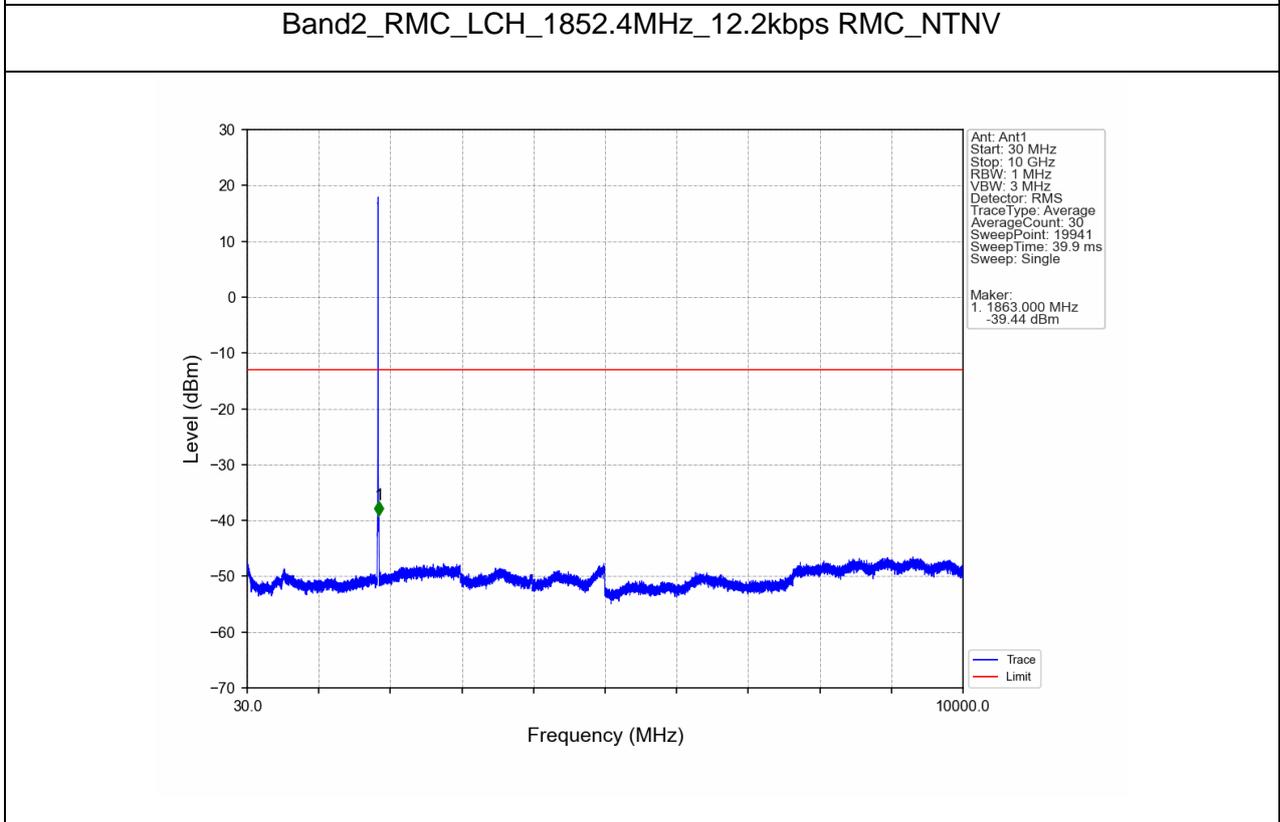
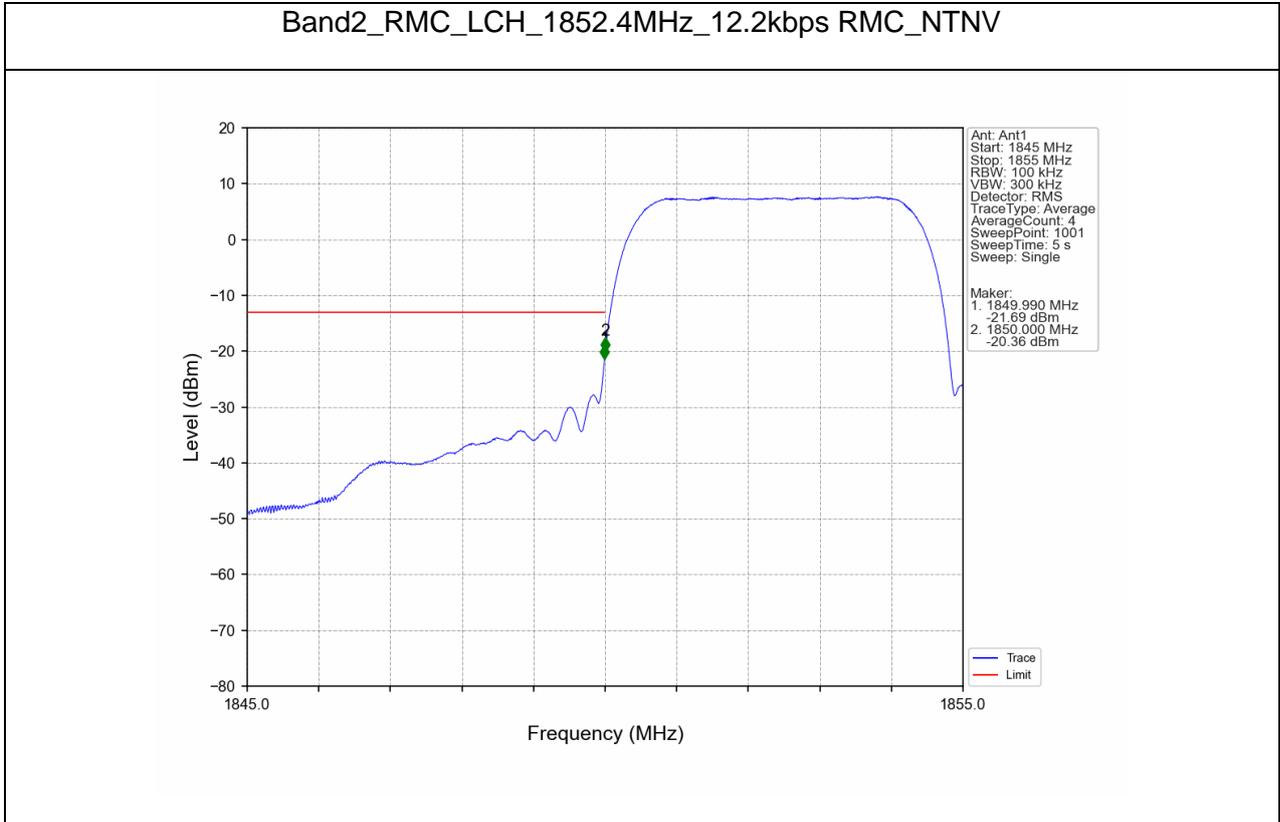
BAND EDGE AND SPURIOUS EMISSION

Test Result

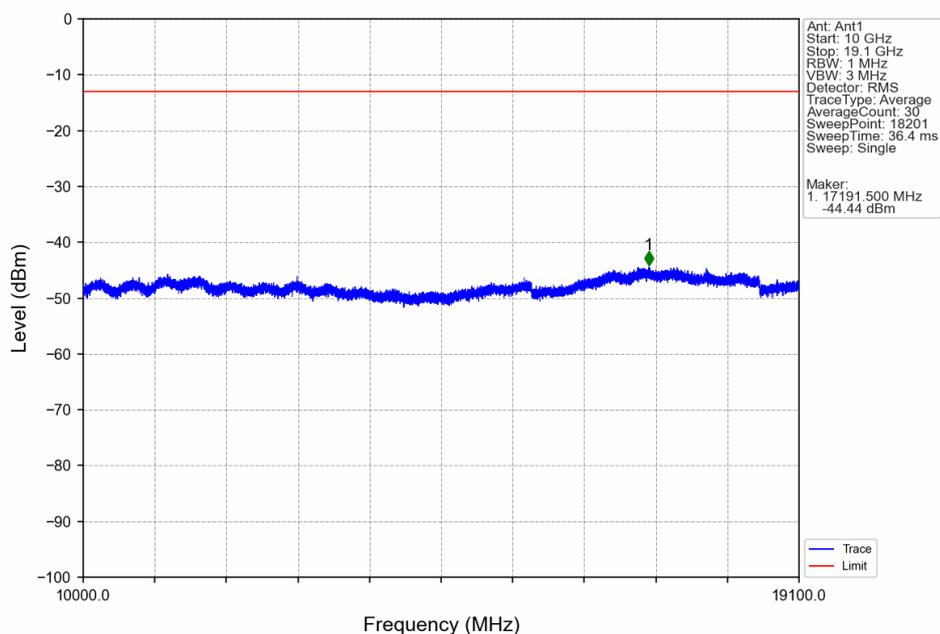
WCDMA BAND2						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1852.4	Refer To Test Graph	<=13	Pass
			1880	Refer To Test Graph	<=13	Pass
			1907.6	Refer To Test Graph	<=13	Pass
	HSDPA	Subtest 1	1852.4	Refer To Test Graph	<=13	Pass
			1880	Refer To Test Graph	<=13	Pass
			1907.6	Refer To Test Graph	<=13	Pass
	HSUPA	Subtest 1	1852.4	Refer To Test Graph	<=13	Pass
			1880	Refer To Test Graph	<=13	Pass
			1907.6	Refer To Test Graph	<=13	Pass



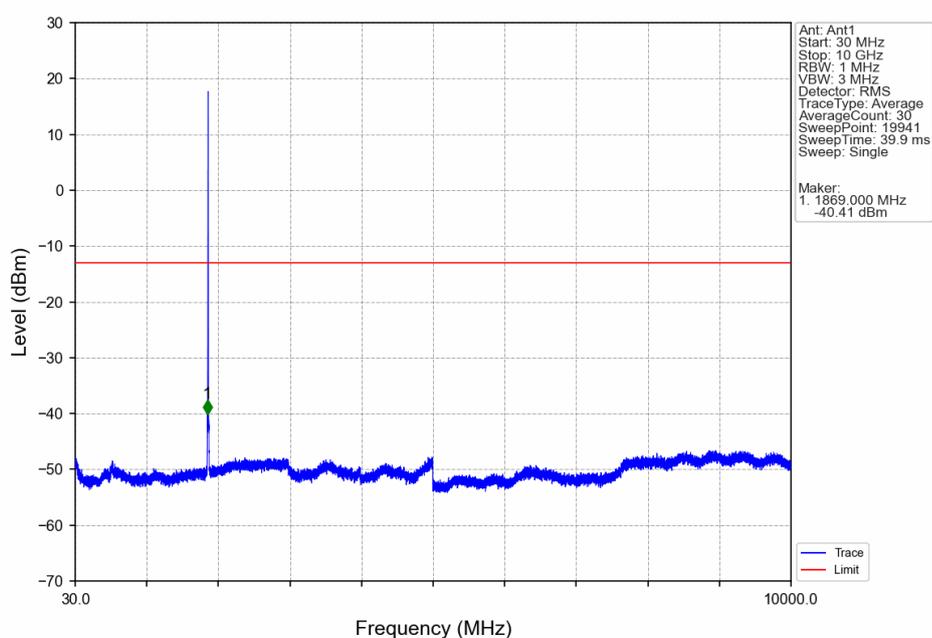
Test Graphs



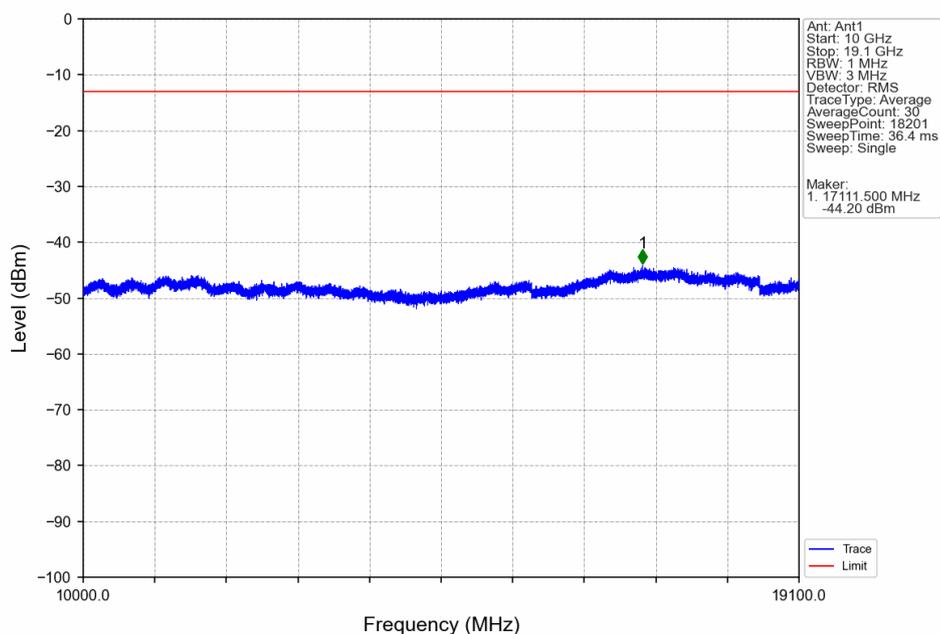
Band2_RMC_LCH_1852.4MHz_12.2kbps RMC_NTNV



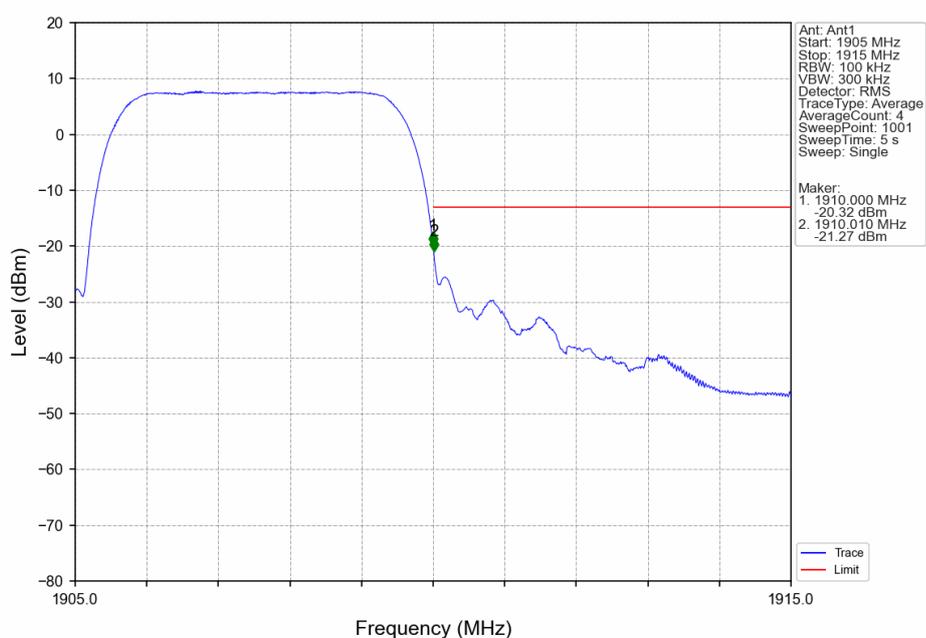
Band2_RMC_MCH_1880MHz_12.2kbps RMC_NTNV



Band2_RMC_MCH_1880MHz_12.2kbps RMC_NTNV



Band2_RMC_HCH_1907.6MHz_12.2kbps RMC_NTNV

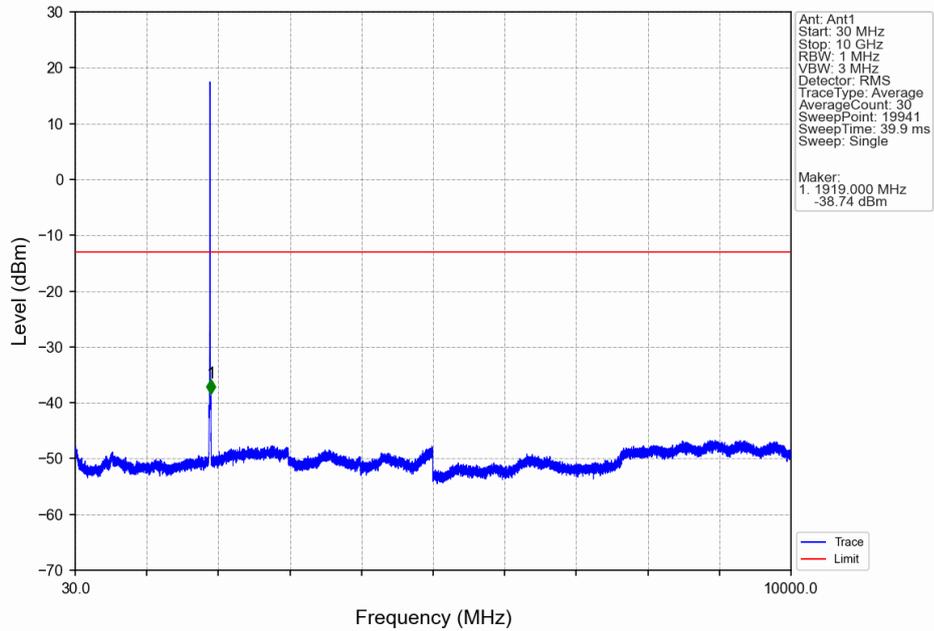




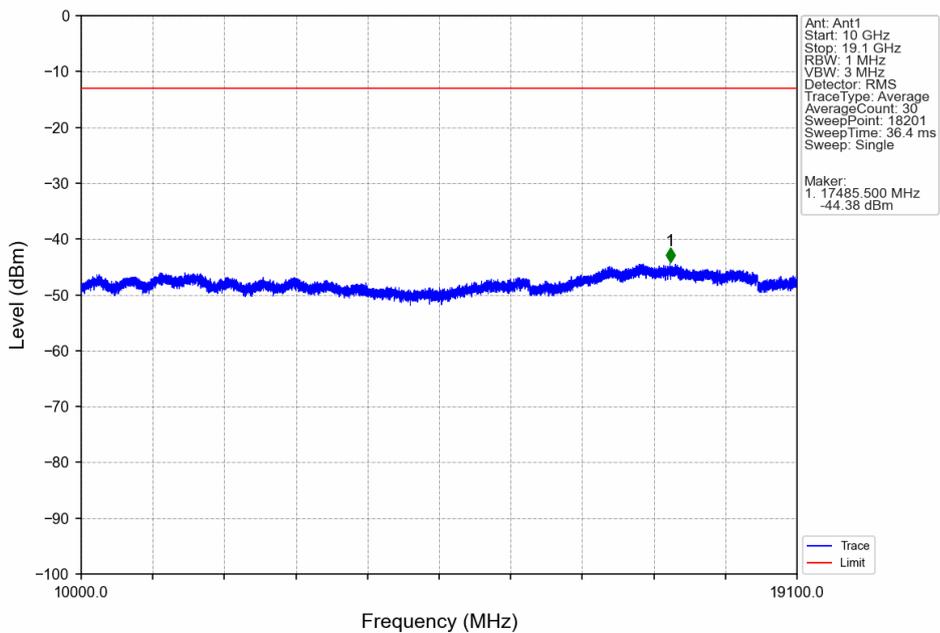
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Test Report No.: PSU-NQN2504150110RF02

Band2_RMC_HCH_1907.6MHz_12.2kbps RMC_NTNV



Band2_RMC_HCH_1907.6MHz_12.2kbps RMC_NTNV

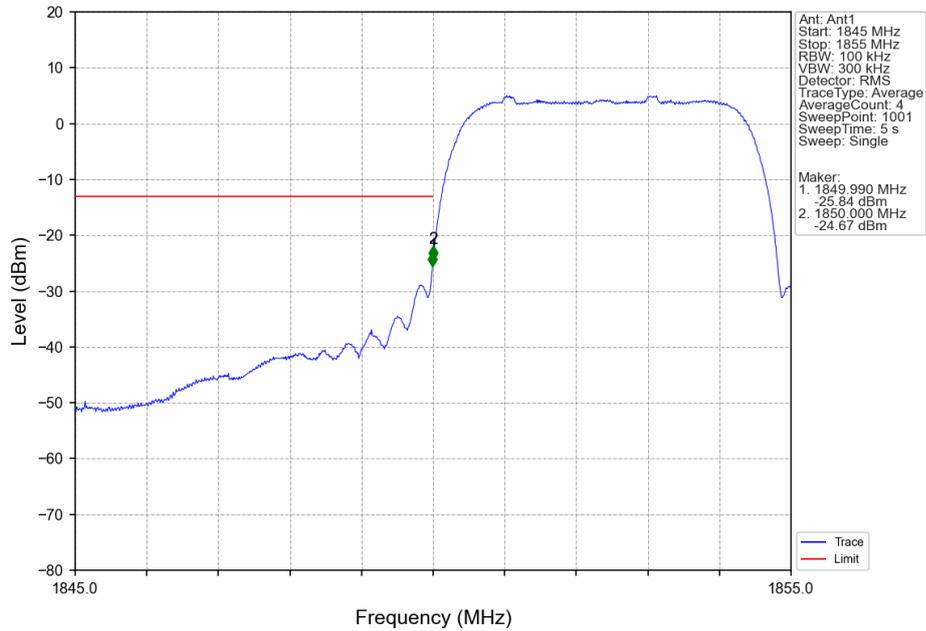




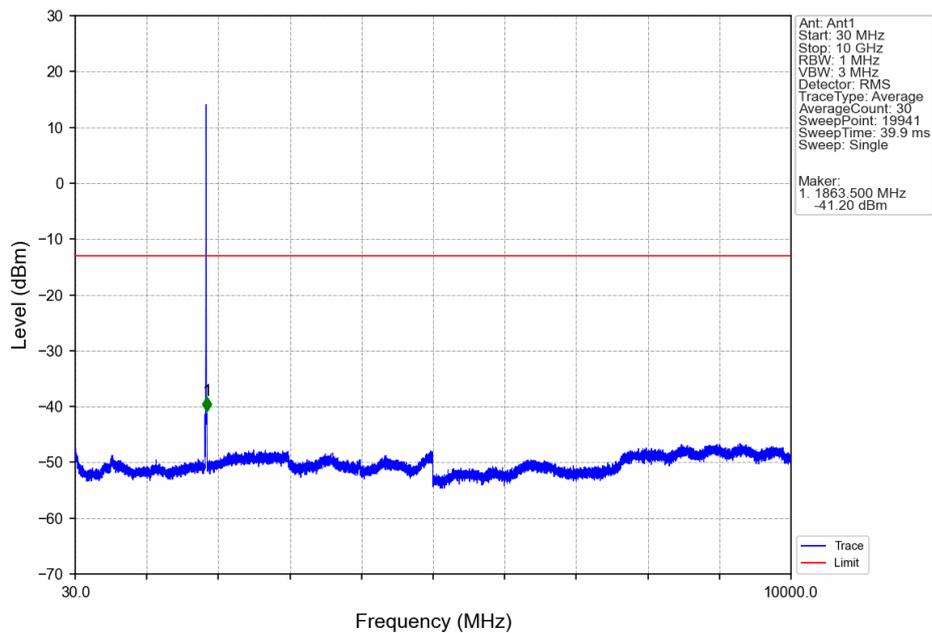
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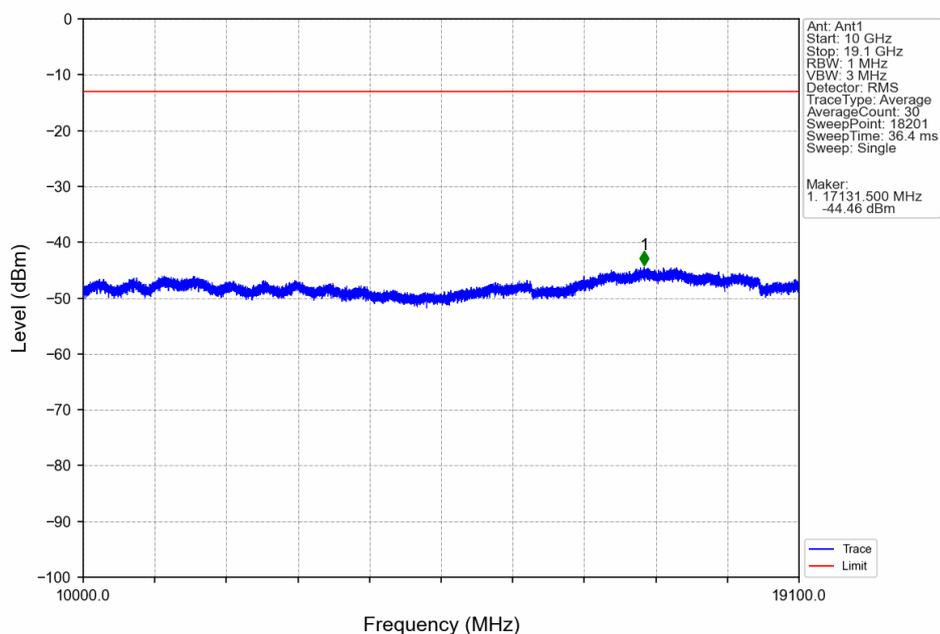
Band2_HSDPA_LCH_1852.4MHz_Subtest 1_NTNV



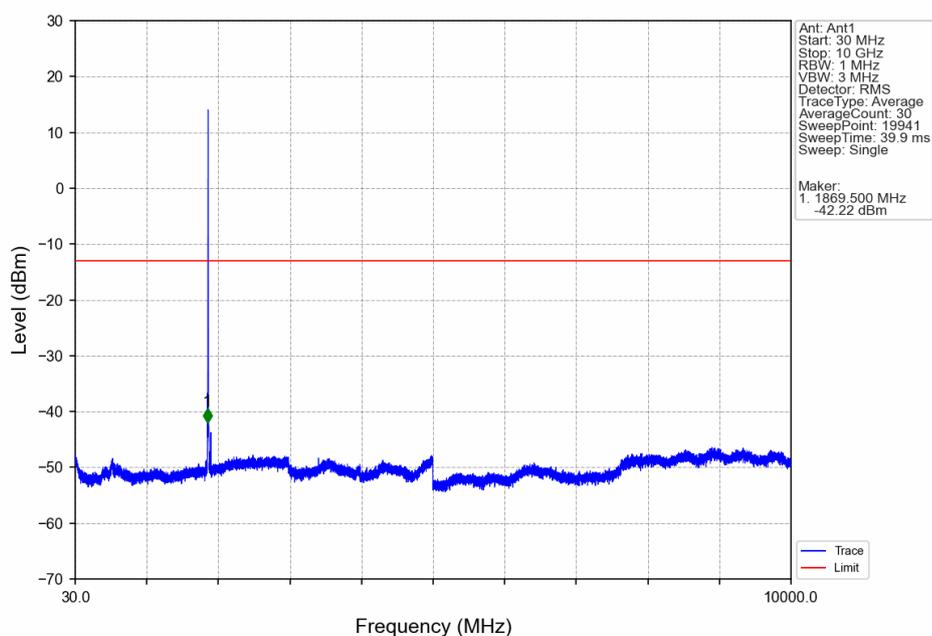
Band2_HSDPA_LCH_1852.4MHz_Subtest 1_NTNV



Band2_HSDPA_LCH_1852.4MHz_Subtest 1_NTNV



Band2_HSDPA_MCH_1880MHz_Subtest 1_NTNV

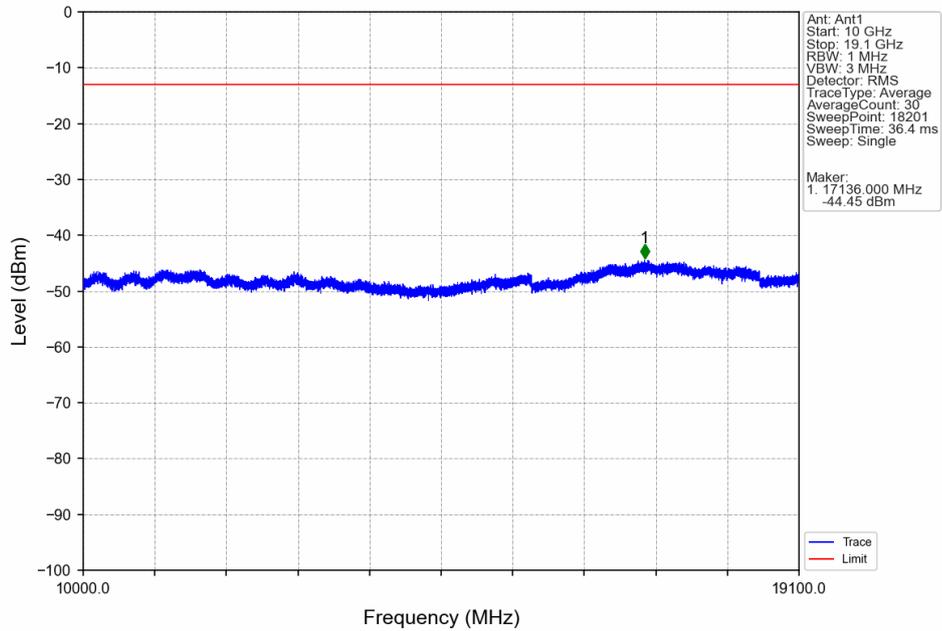




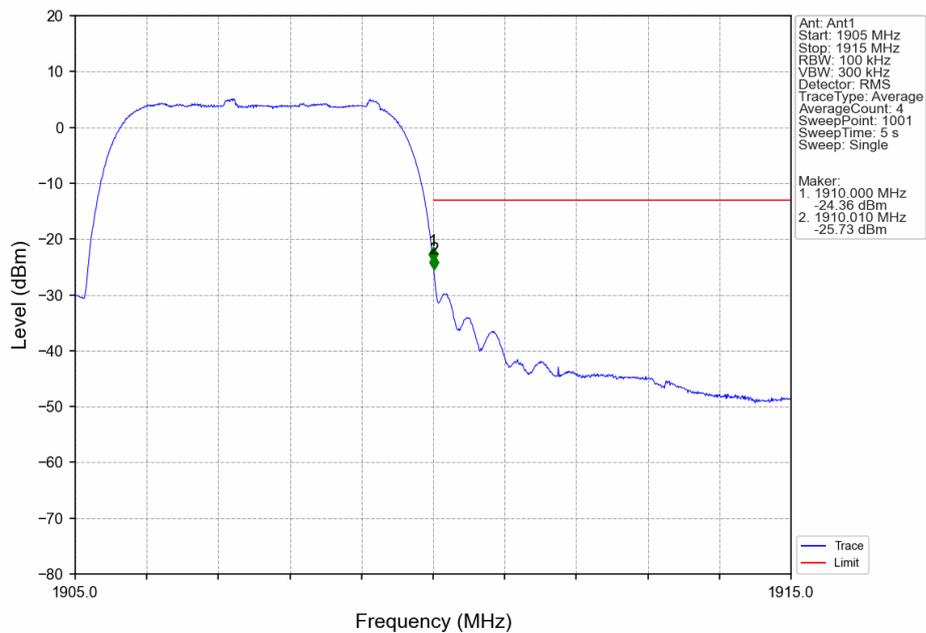
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Test Report No.: PSU-NQN2504150110RF02

Band2_HSDPA_MCH_1880MHz_Subtest 1_NTNV



Band2_HSDPA_HCH_1907.6MHz_Subtest 1_NTNV

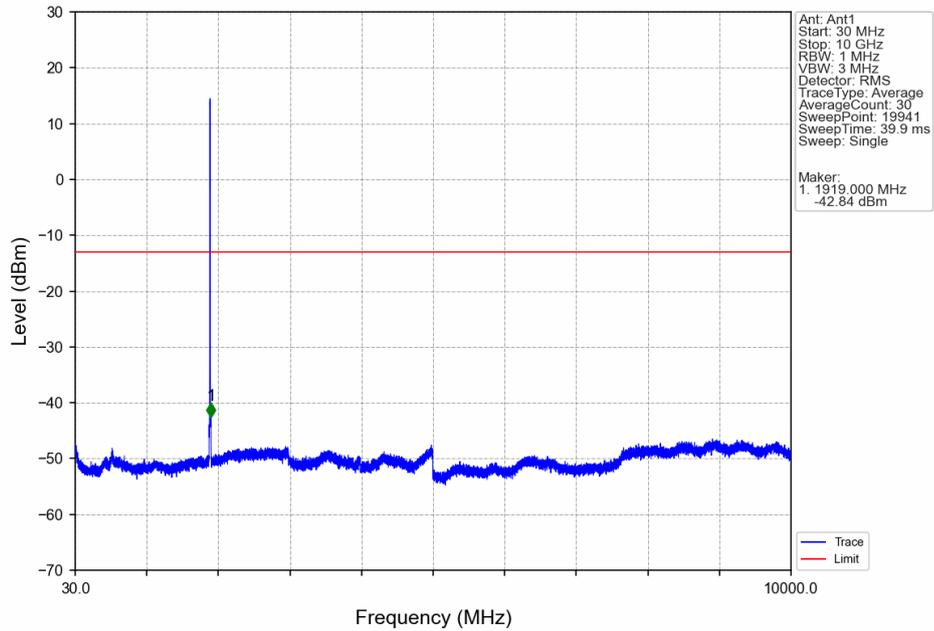




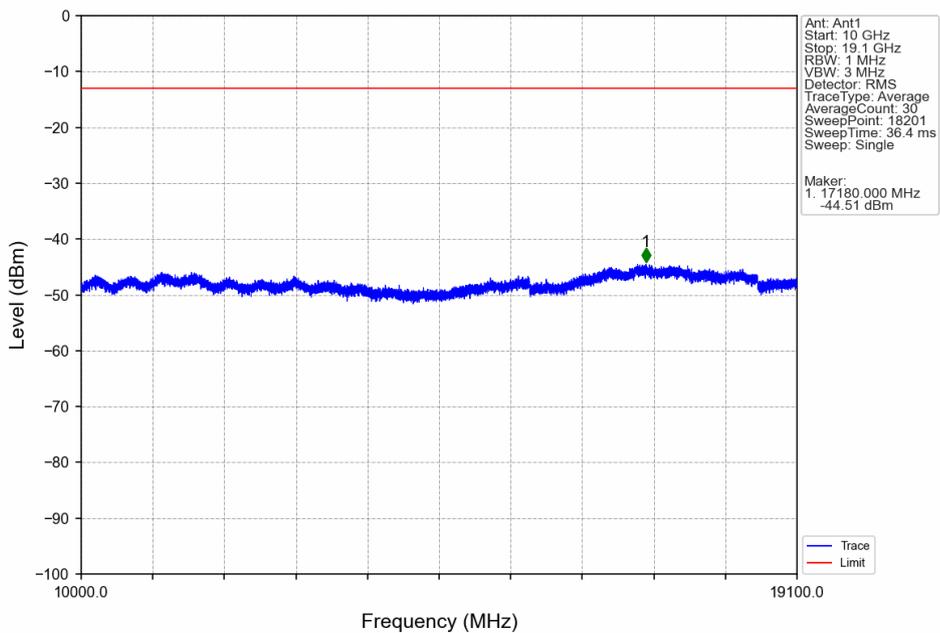
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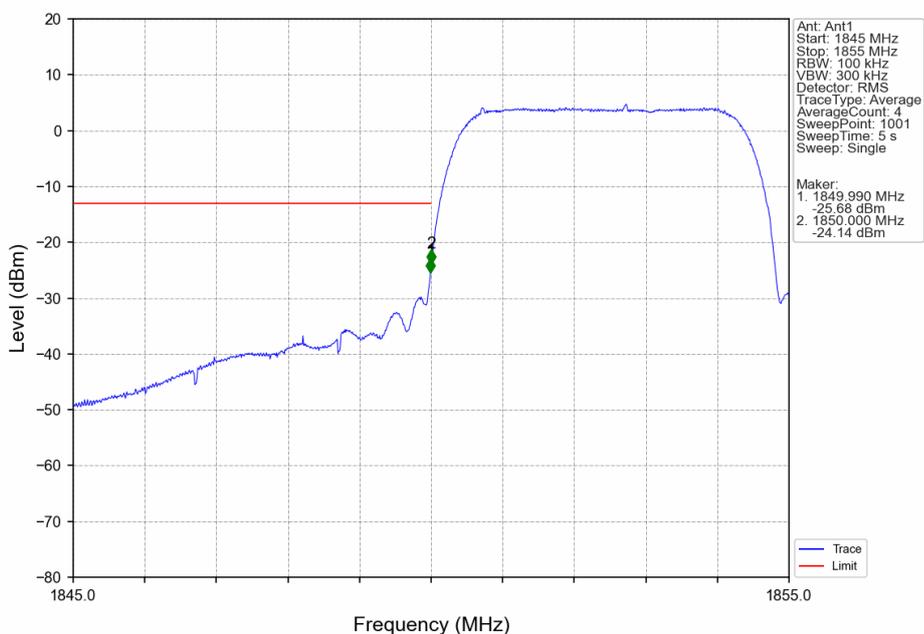
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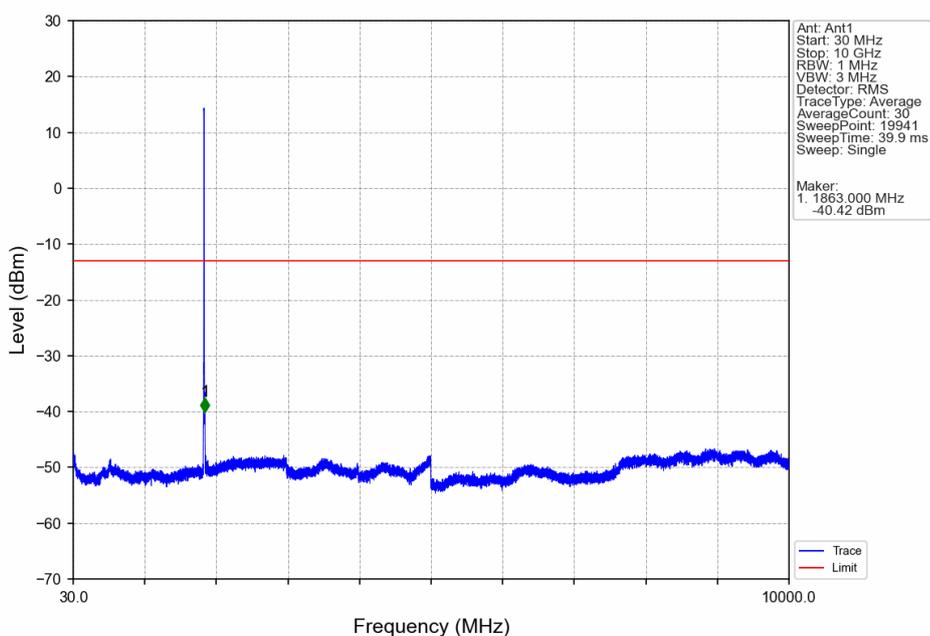
Band2_HSDPA_HCH_1907.6MHz_Subtest 1_NTNV



Band2_HSUPA_LCH_1852.4MHz_Subtest 1_NTNV



Band2_HSUPA_LCH_1852.4MHz_Subtest 1_NTNV

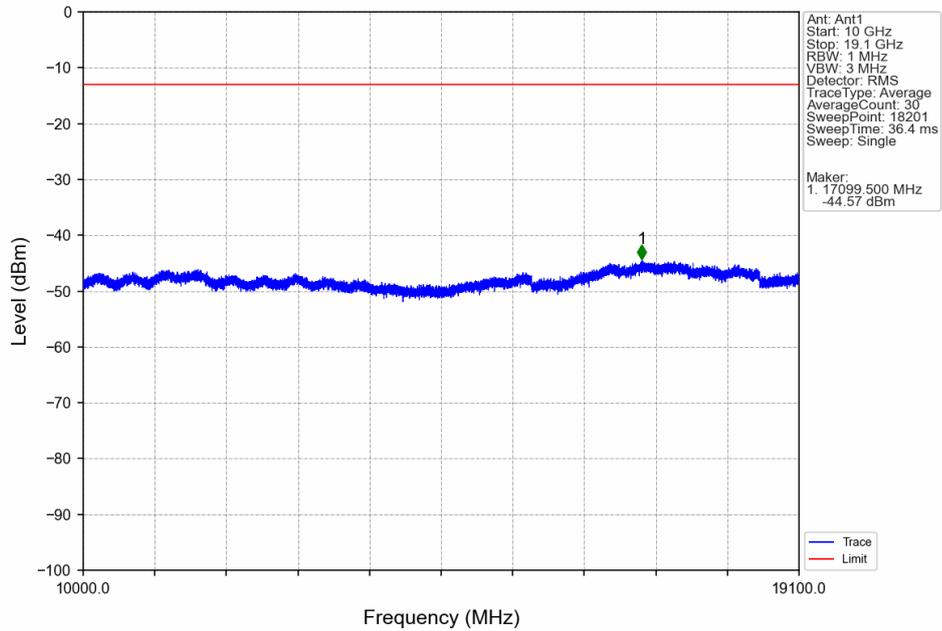




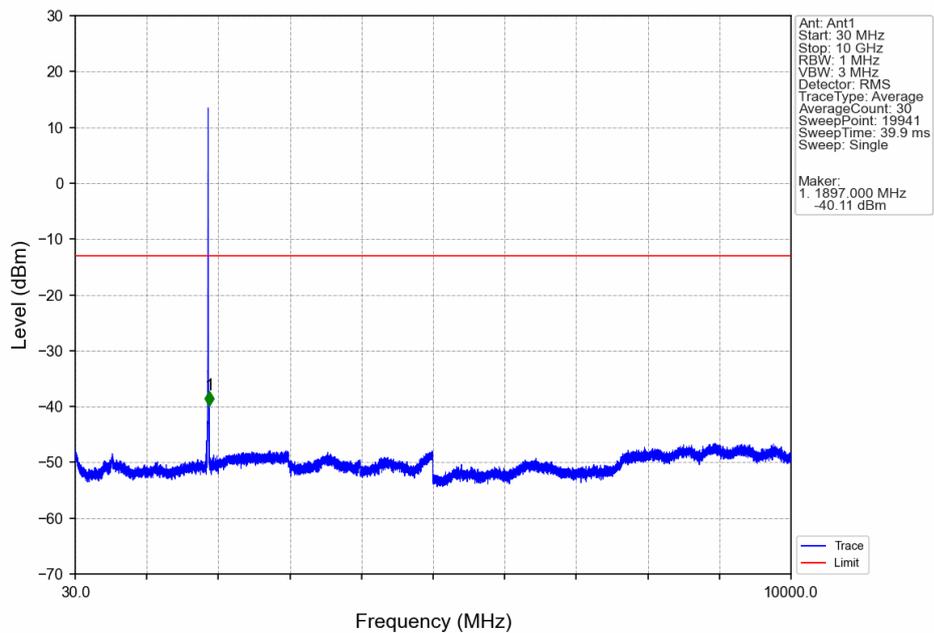
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VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_HSUPA_LCH_1852.4MHz_Subtest 1_NTNV



Band2_HSUPA_MCH_1880MHz_Subtest 1_NTNV

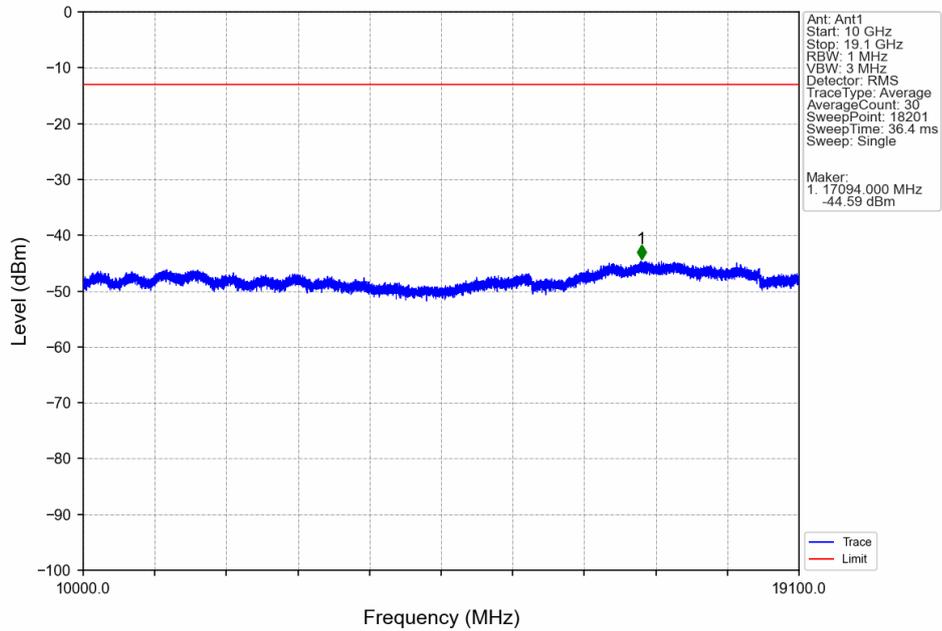




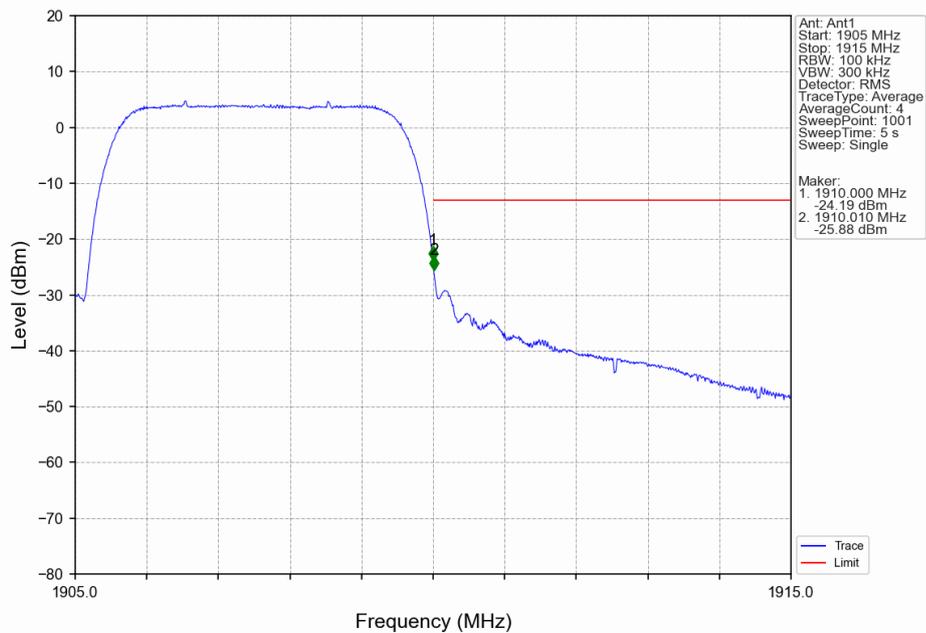
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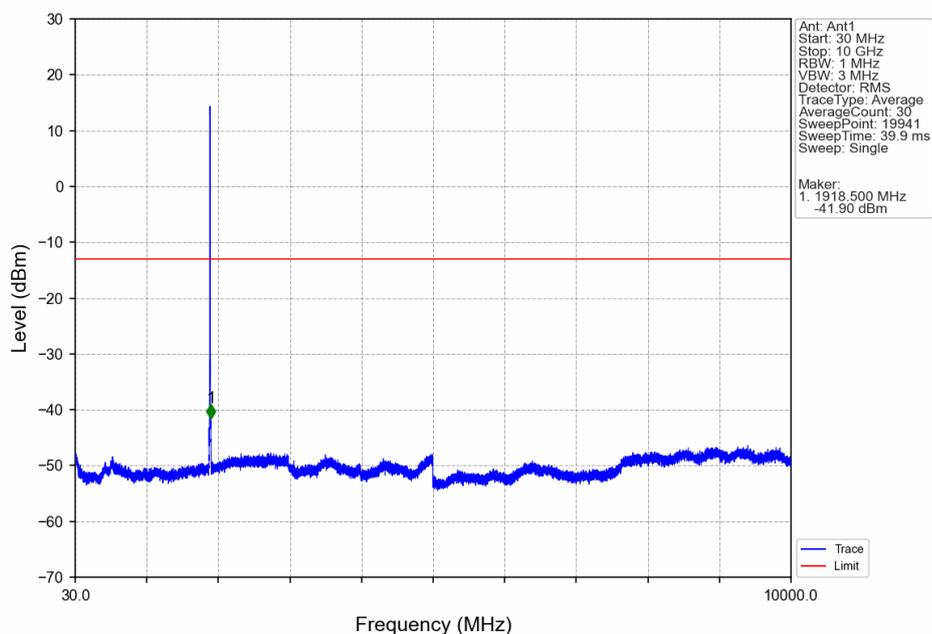
Band2_HSUPA_MCH_1880MHz_Subtest 1_NTNV



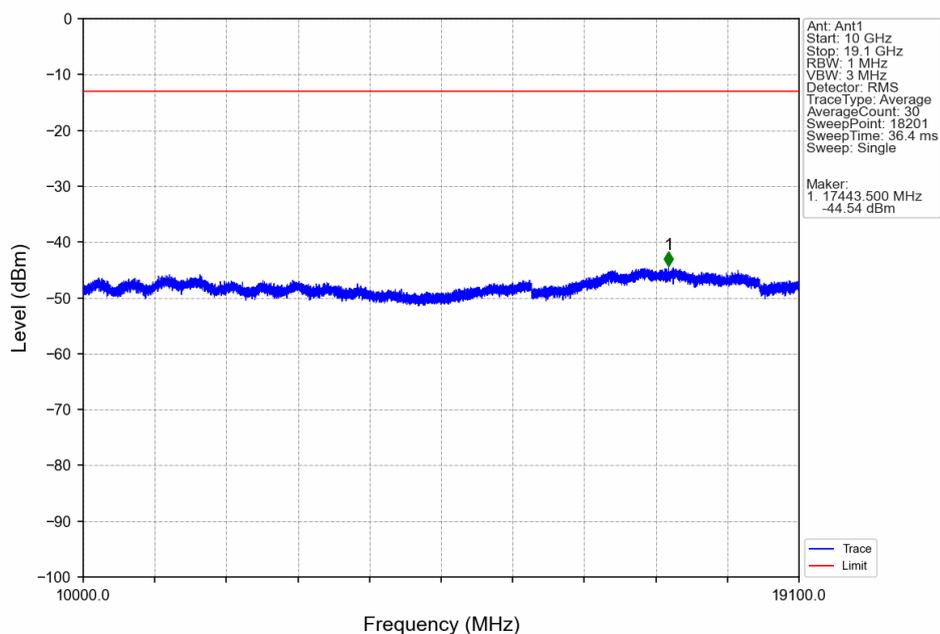
Band2_HSUPA_HCH_1907.6MHz_Subtest 1_NTNV



Band2_HSUPA_HCH_1907.6MHz_Subtest 1_NTNV



Band2_HSUPA_HCH_1907.6MHz_Subtest 1_NTNV





FREQUENCY STABILITY

Test Result

Band: 2								
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict	
					Result	Limit		
RMC	1852.4	20	3.4	4.699	0.0025	-2.5 to 2.5	Pass	
			4	4.792	0.0026	-2.5 to 2.5	Pass	
			4.6	5.257	0.0028	-2.5 to 2.5	Pass	
		5	4	4.656	0.0025	-2.5 to 2.5	Pass	
		15	4	4.499	0.0024	-2.5 to 2.5	Pass	
		25	4	4.957	0.0027	-2.5 to 2.5	Pass	
	1880	20	3.4	1.945	0.0010	-2.5 to 2.5	Pass	
			4	2.131	0.0011	-2.5 to 2.5	Pass	
			4.6	1.924	0.0010	-2.5 to 2.5	Pass	
		5	4	2.131	0.0011	-2.5 to 2.5	Pass	
		15	4	1.996	0.0011	-2.5 to 2.5	Pass	
		25	4	1.888	0.0010	-2.5 to 2.5	Pass	
	1907.6	20	3.4	-1.459	-0.0008	-2.5 to 2.5	Pass	
			4	-1.302	-0.0007	-2.5 to 2.5	Pass	
			4.6	-1.109	-0.0006	-2.5 to 2.5	Pass	
		5	4	-1.295	-0.0007	-2.5 to 2.5	Pass	
		15	4	-1.137	-0.0006	-2.5 to 2.5	Pass	
		25	4	-1.030	-0.0005	-2.5 to 2.5	Pass	
	HSDPA	1852.4	20	3.4	7.002	0.0038	-2.5 to 2.5	Pass
				4	7.446	0.0040	-2.5 to 2.5	Pass
				4.6	7.331	0.0040	-2.5 to 2.5	Pass
5			4	6.938	0.0037	-2.5 to 2.5	Pass	
15			4	7.589	0.0041	-2.5 to 2.5	Pass	
25			4	6.881	0.0037	-2.5 to 2.5	Pass	
1880		20	3.4	4.892	0.0026	-2.5 to 2.5	Pass	
			4	4.499	0.0024	-2.5 to 2.5	Pass	
			4.6	4.642	0.0025	-2.5 to 2.5	Pass	
		5	4	4.721	0.0025	-2.5 to 2.5	Pass	
		15	4	4.699	0.0025	-2.5 to 2.5	Pass	
		25	4	4.821	0.0026	-2.5 to 2.5	Pass	
1907.6		20	3.4	1.395	0.0007	-2.5 to 2.5	Pass	
			4	1.130	0.0006	-2.5 to 2.5	Pass	
			4.6	1.123	0.0006	-2.5 to 2.5	Pass	
		5	4	1.159	0.0006	-2.5 to 2.5	Pass	
		15	4	1.330	0.0007	-2.5 to 2.5	Pass	
		25	4	1.402	0.0007	-2.5 to 2.5	Pass	
HSUPA		1852.4	20	3.4	2.139	0.0012	-2.5 to 2.5	Pass
				4	2.782	0.0015	-2.5 to 2.5	Pass
				4.6	1.009	0.0005	-2.5 to 2.5	Pass
	5		4	0.250	0.0001	-2.5 to 2.5	Pass	
	15		4	2.346	0.0013	-2.5 to 2.5	Pass	
	25		4	3.233	0.0017	-2.5 to 2.5	Pass	
	1880	20	3.4	-2.246	-0.0012	-2.5 to 2.5	Pass	
			4	-3.676	-0.0020	-2.5 to 2.5	Pass	
			4.6	-3.676	-0.0020	-2.5 to 2.5	Pass	
		5	4	-3.676	-0.0020	-2.5 to 2.5	Pass	
		15	4	-3.676	-0.0020	-2.5 to 2.5	Pass	
		25	4	-3.676	-0.0020	-2.5 to 2.5	Pass	



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Test Report No.: PSU-NQN2504150110RF02

			4.6	-0.536	-0.0003	-2.5 to 2.5	Pass	
		5	4	-2.625	-0.0014	-2.5 to 2.5	Pass	
		15	4	-1.116	-0.0006	-2.5 to 2.5	Pass	
		25	4	-0.916	-0.0005	-2.5 to 2.5	Pass	
		35	4	-1.488	-0.0008	-2.5 to 2.5	Pass	
	1907.6	20		3.4	-4.871	-0.0026	-2.5 to 2.5	Pass
				4	-3.448	-0.0018	-2.5 to 2.5	Pass
				4.6	-4.506	-0.0024	-2.5 to 2.5	Pass
		5	4	-4.292	-0.0022	-2.5 to 2.5	Pass	
		15	4	-3.834	-0.0020	-2.5 to 2.5	Pass	
		25	4	-3.176	-0.0017	-2.5 to 2.5	Pass	
		35	4	-5.422	-0.0028	-2.5 to 2.5	Pass	



LTE BAND 2

PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

Band: 2 / Bandwidth: 1.4MHz / NTN						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	1850.7	6	0	4.44	<=13	Pass
	1880	6	0	4.48	<=13	Pass
	1909.3	6	0	4.64	<=13	Pass
16QAM	1850.7	6	0	5.40	<=13	Pass
	1880	6	0	5.40	<=13	Pass
	1909.3	6	0	5.60	<=13	Pass
64QAM	1850.7	6	0	5.40	<=13	Pass
	1880	6	0	5.42	<=13	Pass
	1909.3	6	0	5.60	<=13	Pass

Band: 2 / Bandwidth: 3MHz / NTN						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	1851.5	15	0	4.42	<=13	Pass
	1880	15	0	4.46	<=13	Pass
	1908.5	15	0	4.52	<=13	Pass
16QAM	1851.5	15	0	5.40	<=13	Pass
	1880	15	0	5.42	<=13	Pass
	1908.5	15	0	5.52	<=13	Pass
64QAM	1851.5	15	0	5.38	<=13	Pass
	1880	15	0	5.40	<=13	Pass
	1908.5	15	0	5.50	<=13	Pass

Band: 2 / Bandwidth: 5MHz / NTN						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	1852.5	25	0	4.60	<=13	Pass
	1880	25	0	4.60	<=13	Pass
	1907.5	25	0	4.62	<=13	Pass
16QAM	1852.5	25	0	5.64	<=13	Pass
	1880	25	0	5.62	<=13	Pass
	1907.5	25	0	5.70	<=13	Pass
64QAM	1852.5	25	0	5.64	<=13	Pass
	1880	25	0	5.62	<=13	Pass
	1907.5	25	0	5.72	<=13	Pass

Band: 2 / Bandwidth: 10MHz / NTN						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	1855	50	0	4.72	<=13	Pass
	1880	50	0	4.60	<=13	Pass
	1905	50	0	4.70	<=13	Pass
16QAM	1855	50	0	5.72	<=13	Pass
	1880	50	0	5.66	<=13	Pass
	1905	50	0	5.70	<=13	Pass
64QAM	1855	50	0	5.74	<=13	Pass
	1880	50	0	5.68	<=13	Pass
	1905	50	0	5.70	<=13	Pass



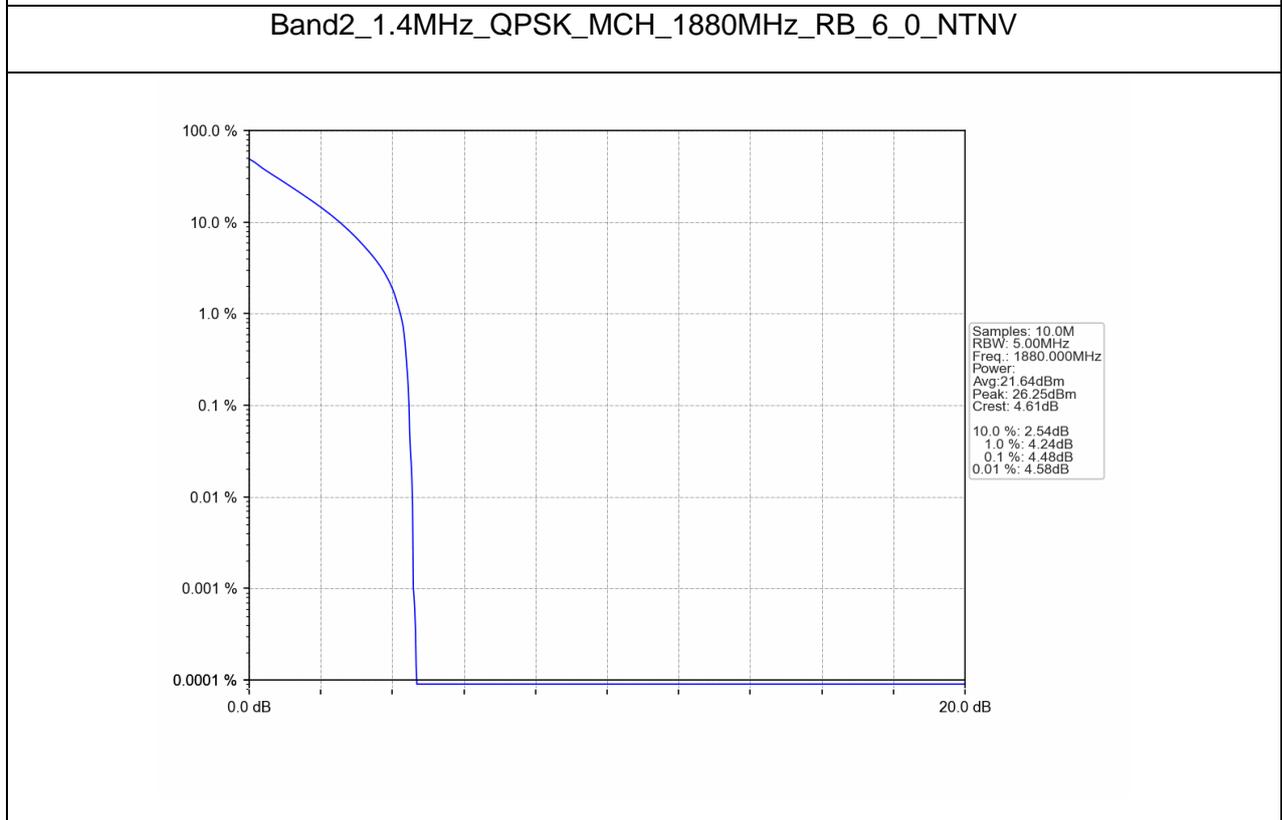
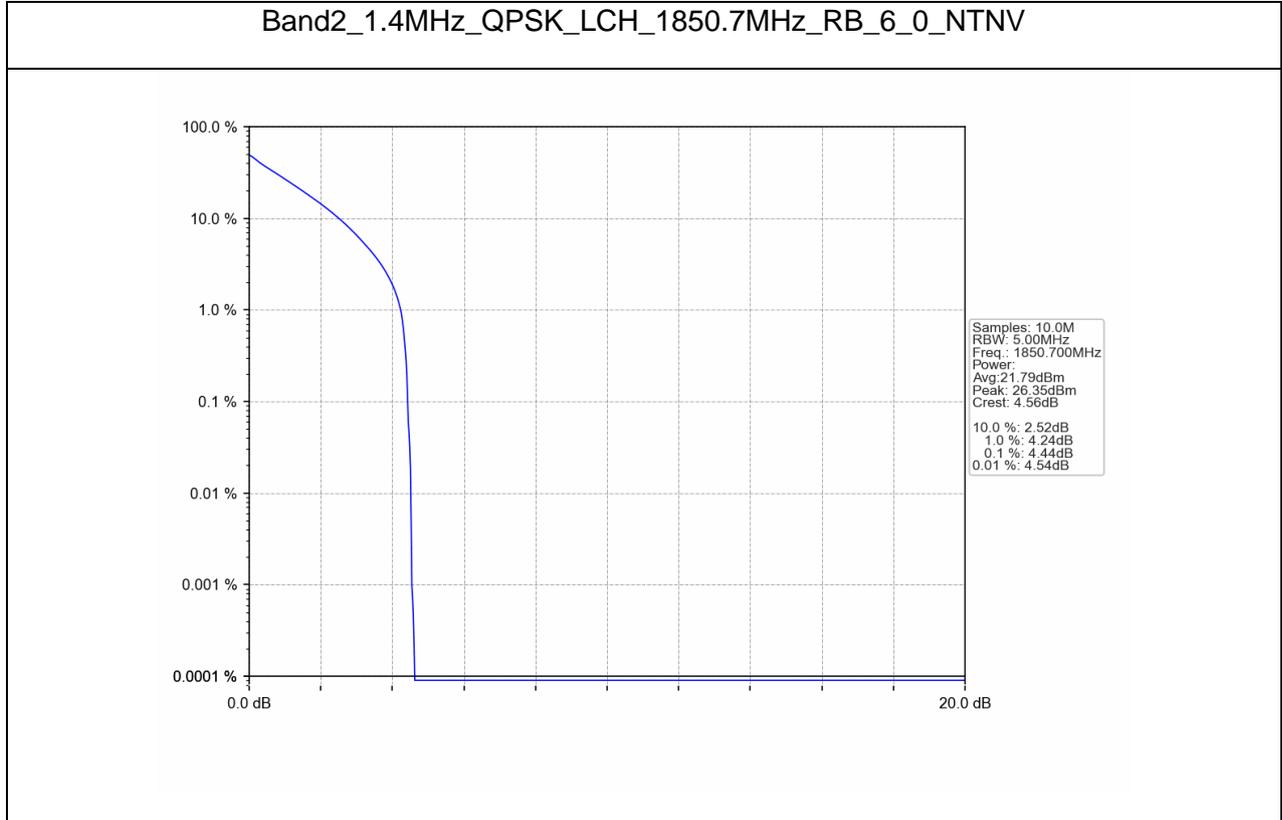
Band: 2 / Bandwidth: 15MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	1857.5	75	0	4.58	<=13	Pass
	1880	75	0	4.50	<=13	Pass
	1902.5	75	0	4.58	<=13	Pass
16QAM	1857.5	75	0	5.58	<=13	Pass
	1880	75	0	5.50	<=13	Pass
	1902.5	75	0	5.54	<=13	Pass
64QAM	1857.5	75	0	5.60	<=13	Pass
	1880	75	0	5.52	<=13	Pass
	1902.5	75	0	5.52	<=13	Pass

Band: 2 / Bandwidth: 20MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	1860	100	0	4.66	<=13	Pass
	1880	100	0	4.72	<=13	Pass
	1900	100	0	4.74	<=13	Pass
16QAM	1860	100	0	5.74	<=13	Pass
	1880	100	0	5.74	<=13	Pass
	1900	100	0	5.74	<=13	Pass
64QAM	1860	100	0	5.74	<=13	Pass
	1880	100	0	5.76	<=13	Pass
	1900	100	0	5.74	<=13	Pass



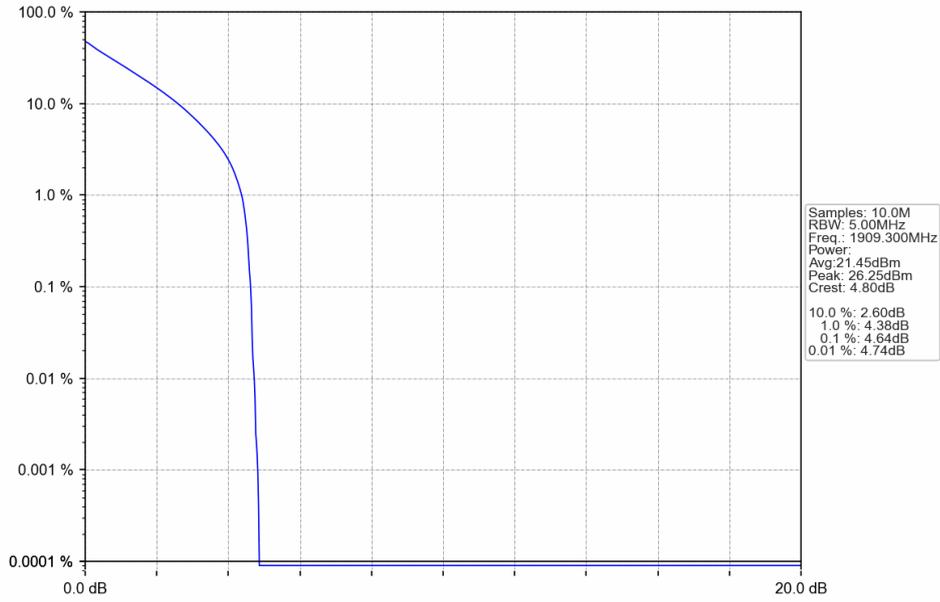
Test Graphs

1.4MHz

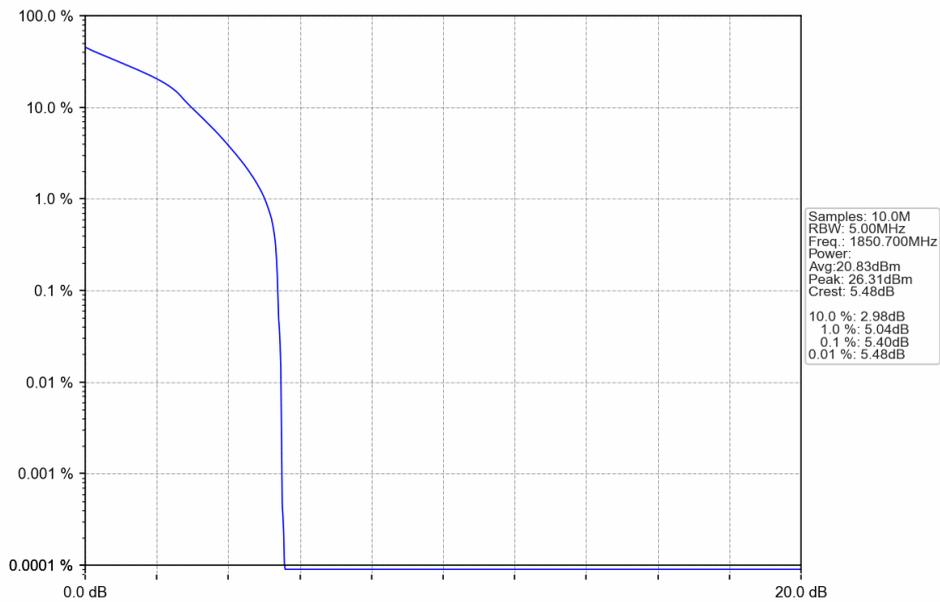




Band2_1.4MHz_QPSK_HCH_1909.3MHz_RB_6_0_NTNV

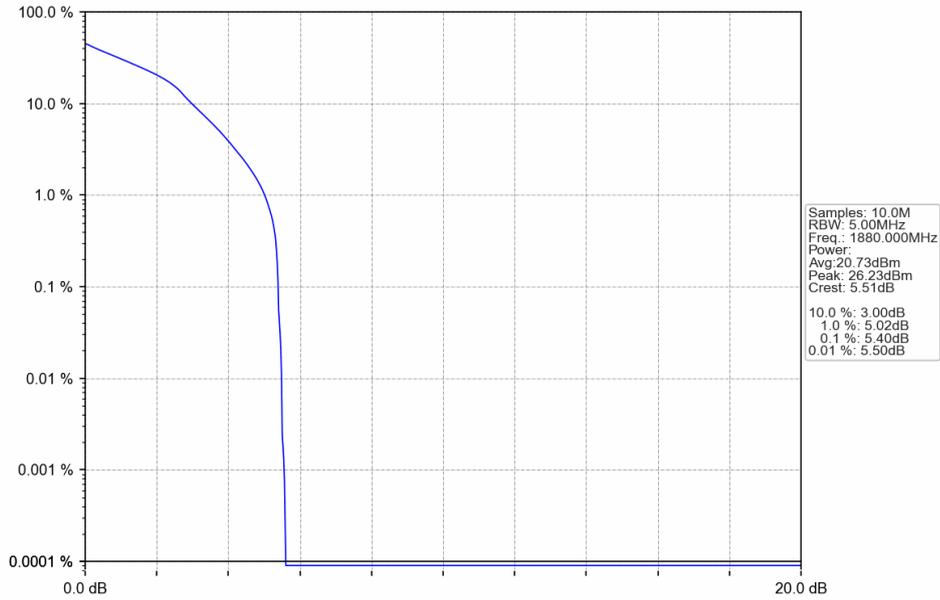


Band2_1.4MHz_16QAM_LCH_1850.7MHz_RB_6_0_NTNV

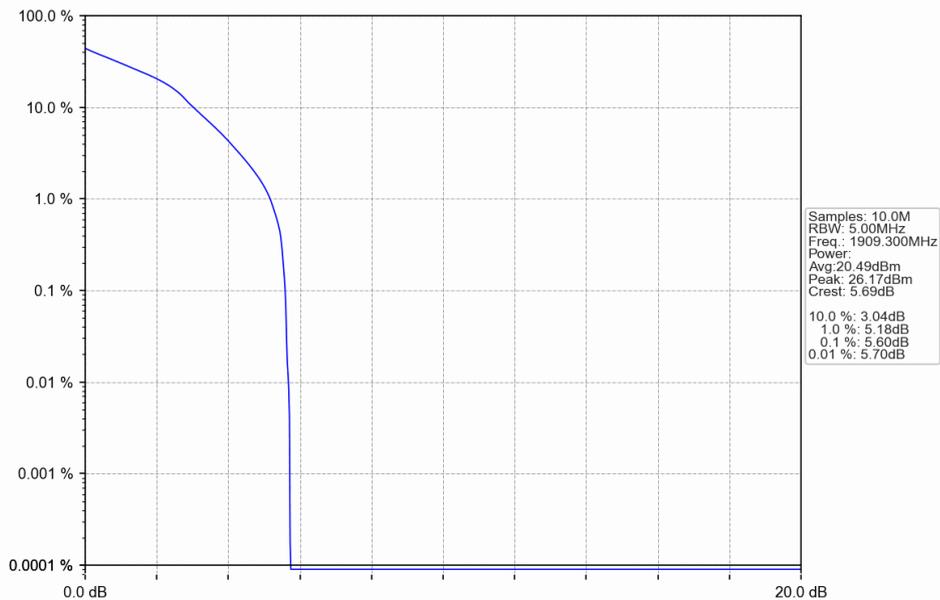




Band2_1.4MHz_16QAM_MCH_1880MHz_RB_6_0_NTNV



Band2_1.4MHz_16QAM_HCH_1909.3MHz_RB_6_0_NTNV

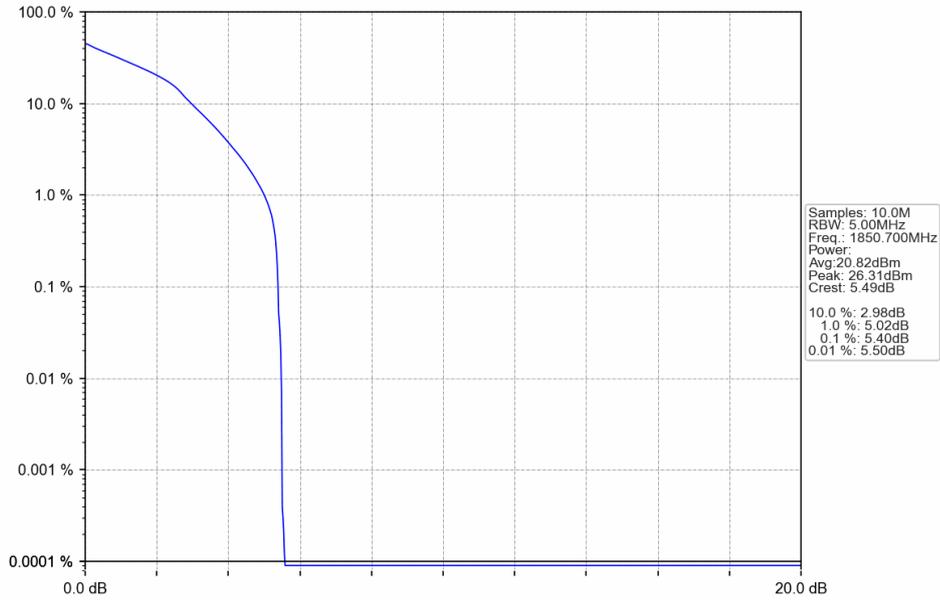




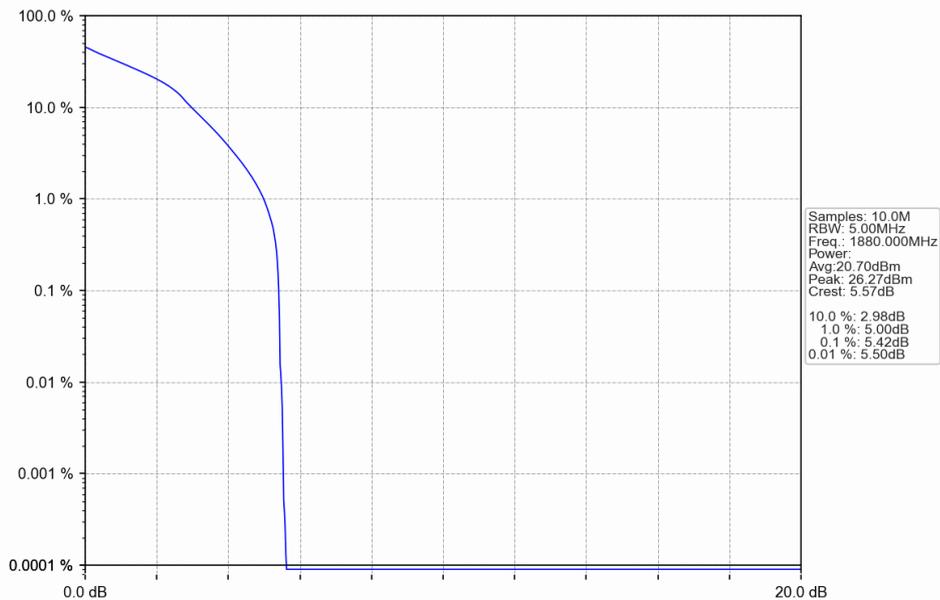
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Test Report No.: PSU-NQN2504150110RF02

Band2_1.4MHz_64QAM_LCH_1850.7MHz_RB_6_0_NTNV



Band2_1.4MHz_64QAM_MCH_1880MHz_RB_6_0_NTNV

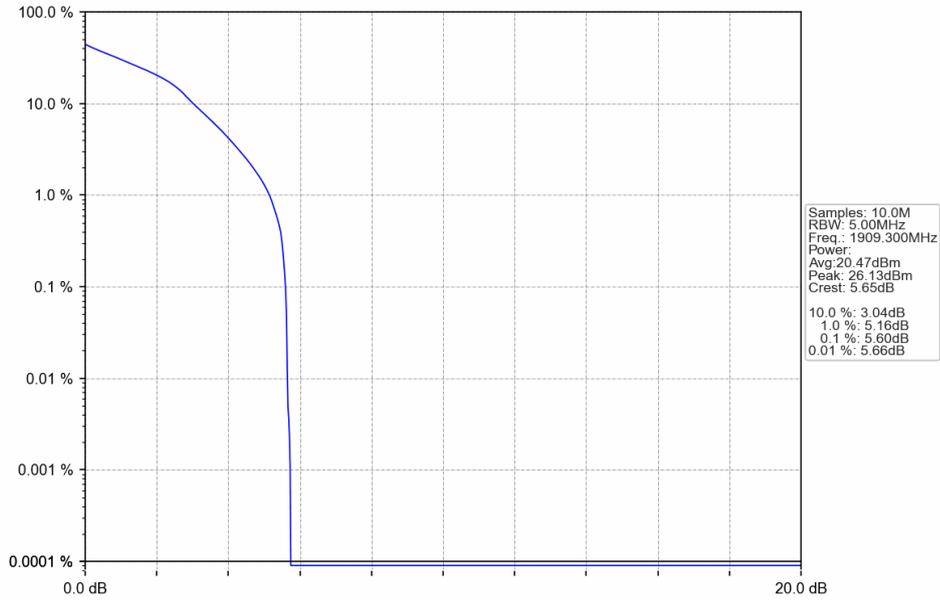




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Test Report No.: PSU-NQN2504150110RF02

Band2_1.4MHz_64QAM_HCH_1909.3MHz_RB_6_0_NTNV



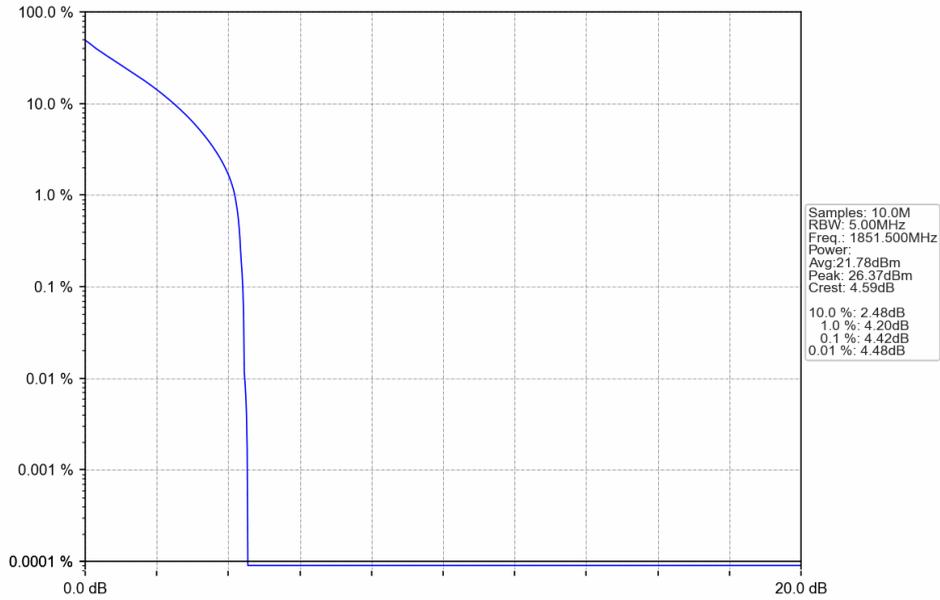


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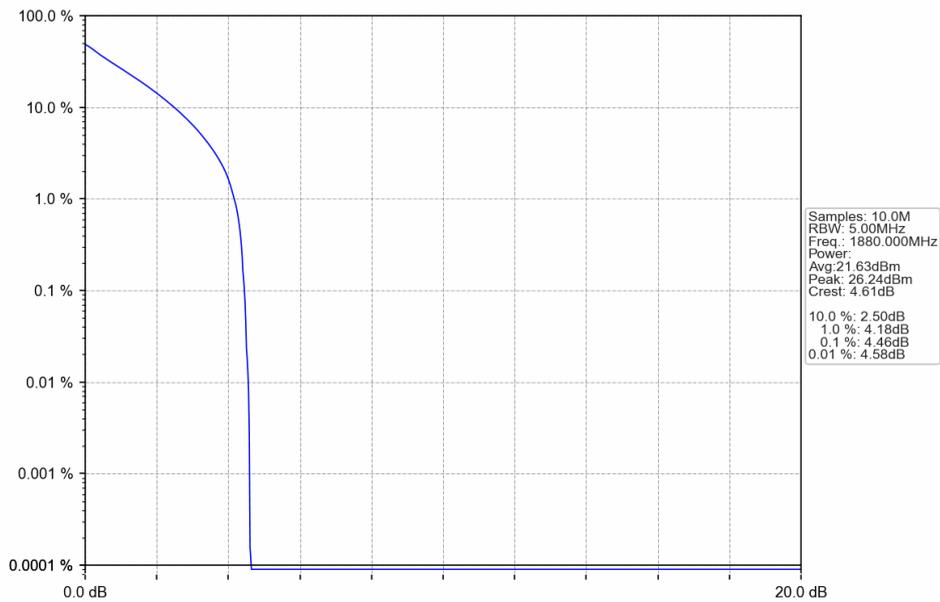
Test Report No.: PSU-NQN2504150110RF02

3MHz

Band2_3MHz_QPSK_LCH_1851.5MHz_RB_15_0_NTNV



Band2_3MHz_QPSK_MCH_1880MHz_RB_15_0_NTNV

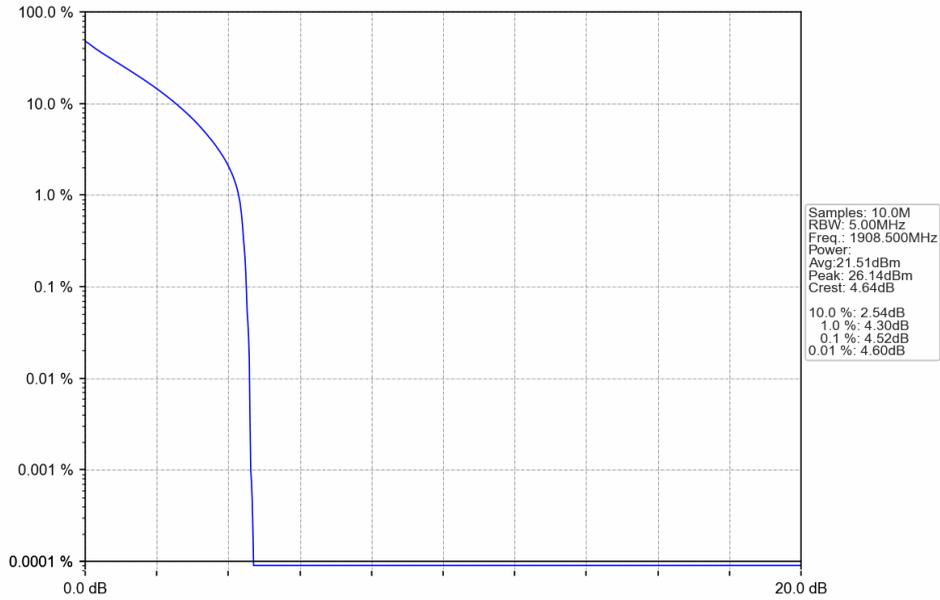




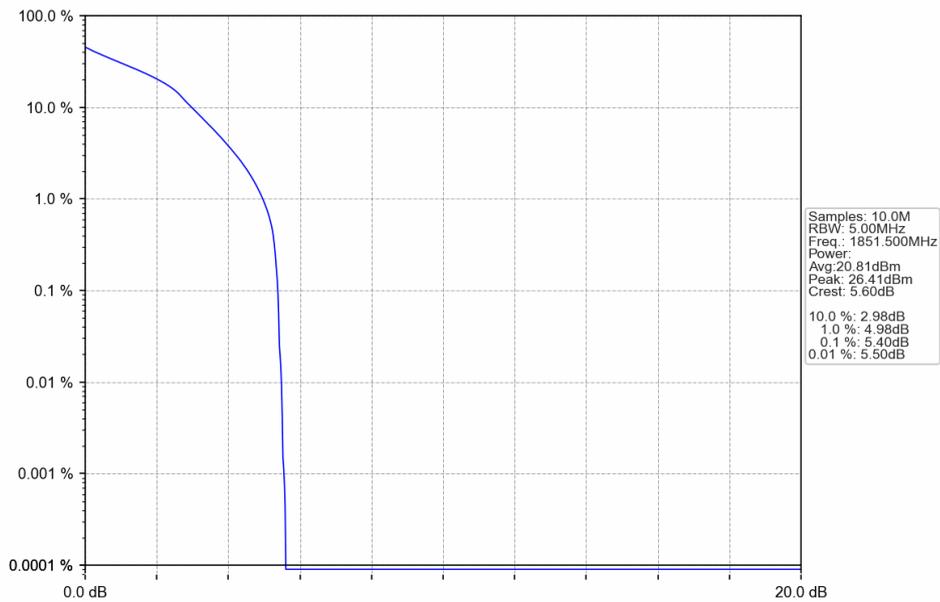
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VERITAS

Test Report No.: PSU-NQN2504150110RF02

Band2_3MHz_QPSK_HCH_1908.5MHz_RB_15_0_NTNV

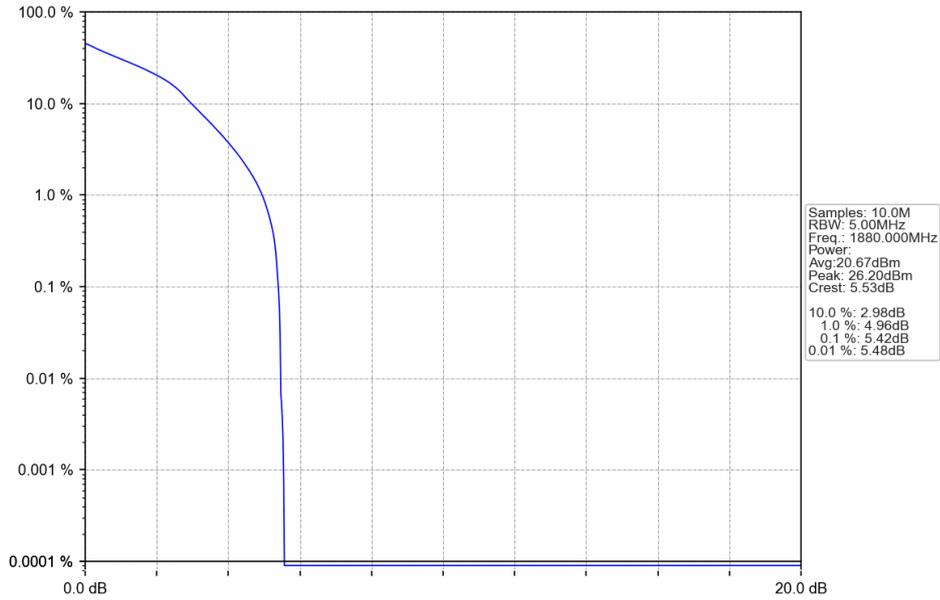


Band2_3MHz_16QAM_LCH_1851.5MHz_RB_15_0_NTNV

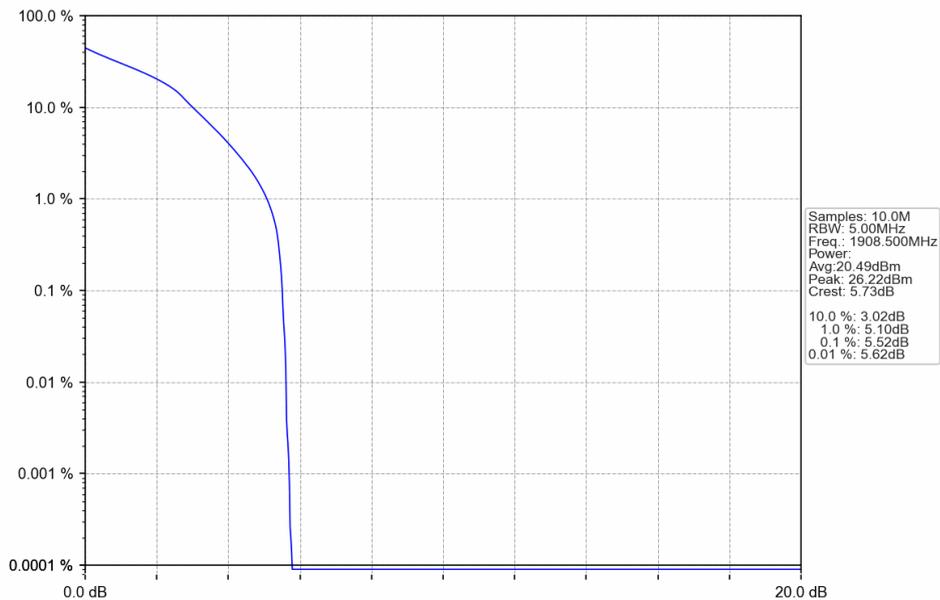




Band2_3MHz_16QAM_MCH_1880MHz_RB_15_0_NTNV

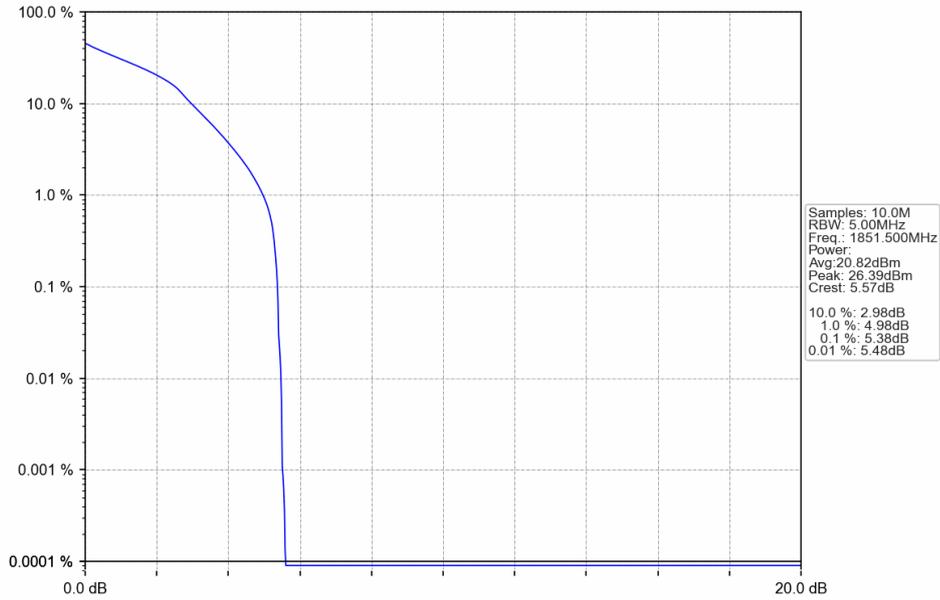


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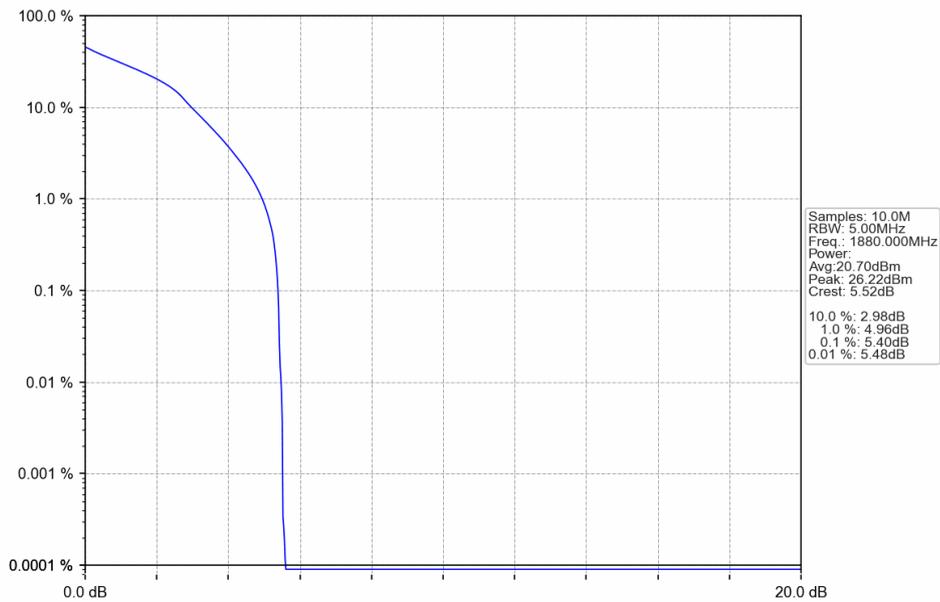




Band2_3MHz_64QAM_LCH_1851.5MHz_RB_15_0_NTNV



Band2_3MHz_64QAM_MCH_1880MHz_RB_15_0_NTNV

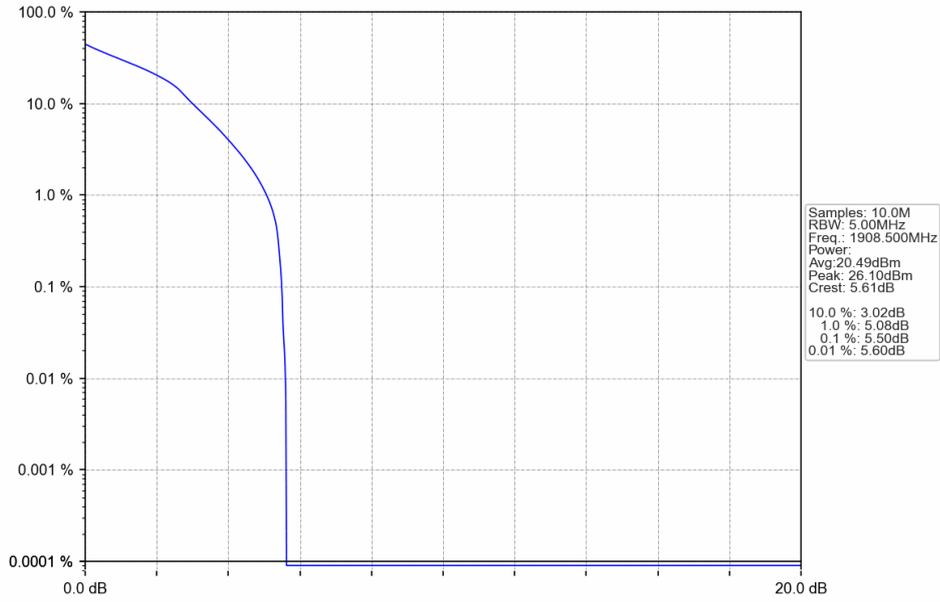




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Test Report No.: PSU-NQN2504150110RF02

Band2_3MHz_64QAM_HCH_1908.5MHz_RB_15_0_NTNV



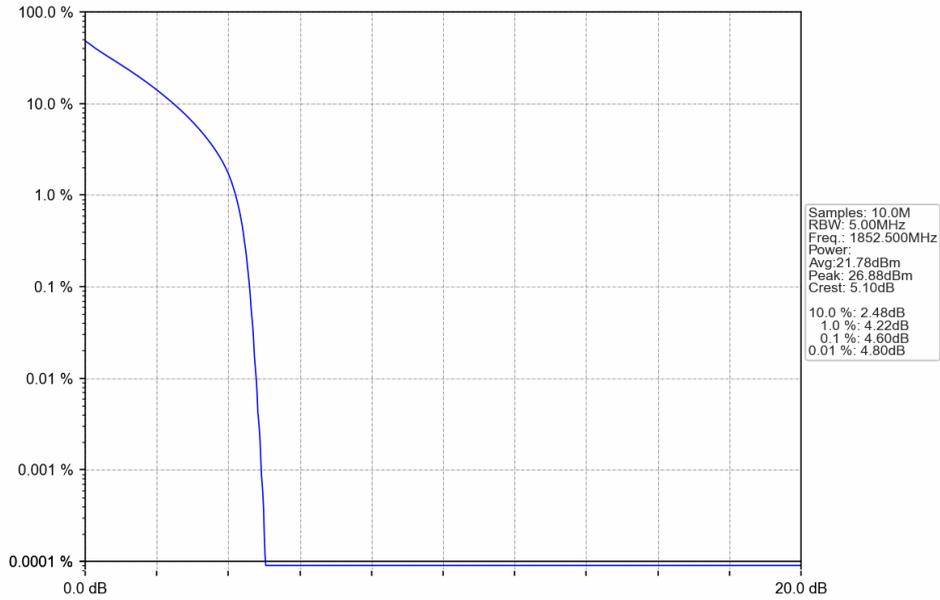


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VERITAS

Test Report No.: PSU-NQN2504150110RF02

5MHz

Band2_5MHz_QPSK_LCH_1852.5MHz_RB_25_0_NTNV



Band2_5MHz_QPSK_MCH_1880MHz_RB_25_0_NTNV

