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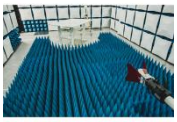

TEST REPORT
PART 27 MEASUREMENT REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
129, Samsung-ro,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
04/21/2023 - 05/24/2023
Test Site/Location:
Element Lab., Suwon,
Yongin-si, Gyeonggi-do, Korea
Test Report Serial No.:
8K23041001-00-R2.A3L

FCC ID:	**A3LMT1602D-48A**
APPLICANT:	**Samsung Electronics Co., Ltd.**

Application Type:	Certification
Model:	MT1602d-48A
EUT Type:	MMU(MT1602d)
FCC Classification:	Licensed Non-Broadcast Station Transmitter
FCC Rule Part(s):	§27
Test Procedure(s):	ANSI C63.26-2015, KDB 971168 D01 v03r01, KDB 662911 D01 v02r01

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

ACCREDITED
Testing Laboratory
Certificate Number 2041.04

Prepared by Jonathan Jang
Test Engineer

Reviewed by Charles.Shin
Technical Manager

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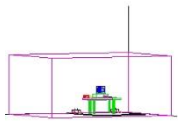
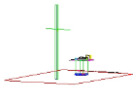


MEASUREMENT REPORT
FCC 47 CFR Part 27_§ 27.50, § 27.53, § 27.54



Mode	Tx Frequency (MHz)	Max. EIRP (dBm/MHz)	Max. EIRP (W/MHz)	§ 27.50 (j)(2) Limit (W/MHz)	Emission Designator	Modulation
n77_1C_40M	3 700 to 3 980	53.87	243.78	1640	38M1G7D	QPSK
		53.86	243.22		38M1W7D	QAM
n77_1C_60M		54.12	258.23		58M5G7D	QPSK
		54.06	254.68		58M5W7D	QAM
n77_1C_80M		52.86	193.20		77M9G7D	QPSK
		52.94	196.79		78M0W7D	QAM
n77_1C_100M		51.89	154.53		97M7G7D	QPSK
		51.89	154.53		97M7W7D	QAM
n77_2C_ 100M+40M		50.22	105.20		137MG7D	QPSK
		50.30	107.15		137MW7D	QAM
n77_2C_ 100M+100M		48.63	72.95		196MG7D	QPSK
		48.59	72.28		196MW7D	QAM

EUT Overview

1.0 REVISION RECORD

Issue Number	Issued Date	Revision History
8K23041001-00.A3L	05/25/2023	Initial Issue
8K23041001-00-R1.A3L	06/19/2023	Revision due to updated EUT Overview table and summary table
8K23041001-00-R2.A3L	06/20/2023	Revision due to updated EUT Overview table

2.0 INTRODUCTION

2.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

2.2 Element Test Location

These measurement tests were conducted at the Element Materials Technology Suwon. Ltd. facility located at (#1407) 13, Heungdeok 1-ro, Giheung-gu, Yongin-si, Gyeonggi-do 16954, Korea.

2.3 Test Facility / Accreditation

Measurements were performed at Element Materials Technology Suwon Lab located in Yongin-si, Gyeonggi, Korea.

- Element Materials Technology Suwon is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation(A2LA) with Certificate number 2041.04 for Specific Absorption Rate (SAR), where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.

- Element Materials Technology Suwon facility is accredited, designated, and recognized in accordance with the provision of Radio Wave Act and International Standard ISO/IEC 17025:2017 under the National Radio Research Agency.

  - Designation Number / CABID: KR0169
  - Test Firm Registration Number of FCC: 417945
  - Test Firm Registration Number of IC: 26168

3.0 PRODUCT INFORMATION

3.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung MMU(MT1602d) FCC ID: A3LMT1602D-48A**.
The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitters that operate under the provisions of Part 27.

3.2 Device Capabilities

This device supports the following conditional features and filter information:

EUT Type	MMU(MT1602d)
Model Name	MT1602d-48A
Test Device Serial No	S619345961
Device Capabilities:	5G NR
Operating Band/Frequency Range:	Band Tx Rx n77: 3700 MHz to 3980 MHz 3700 MHz to 3980 MHz
Supported Modulation	QPSK, 16QAM, 64QAM, 256QAM
Supported Number of Carriers and Channel Bandwidth	40, 60, 80 and 100MHz bandwidth for 5G NR n77 with up to 2CC aggregated of Max. Bandwidth 200 MHz
Maximum Output Power	1CC: 40 MHz: 3.75W/path, 60W/unit 1CC: 60, 80, 100 MHz: 5.625W/path, 90W/unit 2CC: 100 MHz + 40 MHz, 100 MHz + 60 MHz, 100 MHz + 80 MHz, 100 MHz + 100 MHz: 5.625W/path, 90W/unit
Instantaneous Bandwidth (IBW) / Occupied Bandwidth (OBW)	200 MHz / 200 MHz
Number of Antenna ports	16T16R
Supported Configurations	Single carrier, Multi-carrier
Input Voltage:	-48 VDC
Maximum antenna gain	Max 20.7 dBi (20.2 dBi ± 0.5 dB tolerance) Antenna gain declared by the manufacturer.

3.3 Test Configuration

The setup is as follows:

a) The EUT ("MMU(MT1602d)") and a Data Unit (DU) are each powered by -48V DC power supply.
b) The DU is connected to a test laptop via an ethernet cable acting as backhaul.
c) DU connects to the EUT through a fiber optic cable.
d) An RF cable connects the signal analyzer and the EUT Ports for respective measurement.

The EUT was tested per the guidance of ANSI C63.26-2015 and KDB 971168 D01 v03r01. See Section 8.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

The following information is about configurations of carrier frequency and output power per port declared by the manufacturer.

* Abbreviations:
- 1C: 1 carrier configuration
- 2C: Contiguous 2 carriers configuration in multi-carrier operation

Single and Multi Carrier Configuration	No. of Carriers	Total Carrier Bandwidth (MHz)	Carrier Frequency Configuration (MHz)			Rated Power (W/path)
			Lowest	Middle	Highest	
n77_1C_40M	1	40	3720.0	3840.0	3960.0	3.75
n77_1C_60M	1	60	3730.0	3840.0	3950.0	5.625
n77_1C_80M	1	80	3740.0	3840.0	3940.0	5.625
n77_1C_100M	1	100	3750.0	3840.0	3930.0	5.625
n77_2C_100+40M	2	140 (100+40)	3750.0 + 3820.0 (Note1)			5.625
n77_2C_100+100M	2	200 (100+100)	3750.0 + 3850.0 (Note1)			5.625

Note1: All measurements were performed on the fixed channels because the EUT operates on the fixed channels in the multi carrier operation.

3.4 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

4.0 DESCRIPTION OF TESTS

4.1 Measurement Procedure

The measurement procedures described in the document titled “American National Standard for Compliance Testing of Transmitter Used in Licensed Radio Service” (ANSI C63.26-2015) and the guidance provided in KDB 842590 D01 v01r01 were used in the measurement of the EUT.

Occupied Bandwidth:
KDB 971168 D01 v03r01 – Section 4.3
ANSI C63.26-2015 – Section 5.4.4

Conducted Power Measurement and EIRP and PSD
KDB 971168 D01 v03r01 – Section 5.3
KDB 971168 D01 v03r01 – Section 5.4
KDB 662911 D01 v02r01 – Section E)1) In-Band Power Measurements
KDB 662911 D01 v02r01 – Section E)2) In-Band Power Spectral Density (PSD) Measurements
ANSI C63.26-2015 – Section 5.2.5
ANSI C63.26-2015 – Section 5.2.4

Peak-to-Average Power Ratio:
KDB 971168 D01 v03r01 – Section 5.7
ANSI C63.26-2015 – Section 5.2.3.4

Band Edge Emissions at Antenna Terminal
KDB 971168 D01 v03r01 – Section 6
KDB 662911 D01 v02r01 – Section E)3) Out-of-Band and Spurious Emission Measurements
a) Absolute Emission Limits
ii) Measure and sum spectral maxima across the outputs
ANSI C63.26-2015 – Section 5.7

Spurious and Harmonic Emissions at Antenna Terminal
KDB 971168 D01 v03r01 – Section 6
KDB 662911 D01 v02r01 – Section E)3) Out-of-Band and Spurious Emission Measurements
a) Absolute Emission Limits
ii) Measure and sum spectral maxima across the outputs
ANSI C63.26-2015 – Section 5.7

Radiated unwanted emission
KDB 971168 D01 v03r01 – Section 7
ANSI C63.26-2015 – Section 5.8

Frequency Stability / Temperature Variation
KDB 971168 D01 v03r01 – Section 9
ANSI C63.26-2015 – Section 5.6

4.2 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi- anechoic chamber which is shielded from any ambient interference.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. For frequencies above 1GHz, linearly polarized Vivaldi antennas were used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and Vivaldi antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the polarity of the receive antenna to produce the worst-case emissions

4.3 Measurement Software

Test item	Name	Version
Conducted Measurement	Node B automation	1.0

4.4 Enviromental Conditions

The temperature is controlled within the range of 15°C to 35°C. The relative humidity is controlled within the range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.37
Radiated Disturbance (<1GHz)	3.94
Radiated Disturbance (>1GHz)	4.75
Radiated Disturbance (>18GHz)	4.84

6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurement antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacture	Model	Description	Cal Date	Cal interval	Cal Due	Serial Number
SUKSAN TECHNOLOGY	SE-CT-10	Temperature Chamber	07/05/2022	Annual	07/04/2023	191021
Rohde & Schwarz	FSW43	Signal & Spectrum Analyzer	04/06/2023	Annual	04/05/2024	101250
Rohde & Schwarz	ESW	EMI Test Receiver	07/04/2022	Annual	07/03/2023	101761
Rohde & Schwarz	TS-SFUNIT-Rx	Shielded Filter Unit	01/13/2023	Annual	01/12/2024	102151
Schwarzbeck	VULB9162	Broadband TRILOG Antenna	07/13/2021	Biennial	07/12/2023	9162-217
Sunol sciences	DRH-118	Horn Antenna	01/26/2023	Biennial	01/25/2025	A060215
NARDA	180-442A-KF	Horn Antenna	11/23/2022	Biennial	11/22/2024	T058701-0
Keysight	N9030B	PXA Signal Analyzer	04/06/2023	Annual	04/05/2024	MY57142018
K&L Microwave	D.C 1527	High Pass Filter	07/05/2022	Annual	07/04/2023	2
WAINWRIGHT	WHW-13000-18000-40000-40CC	High Pass Filter	04/06/2023	Annual	04/05/2024	2
Reachline	RL50W40GKF-20	Attenuator	04/06/2023	Annual	04/05/2024	PK00408
Centric RF	C411-20	Attenuator	01/12/2023	Annual	01/11/2024	0003
RF One	RFHB1810SC10	Attenuator	07/28/2022	Annual	07/27/2023	RFHB0001 to RFHB0016

Table 6-1. Test Equipment

Notes:

1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

2. All testing was performed before the calibration due date.

7.0 SAMPLE CALCULATIONS

Emission Designator

QPSK Modulation

Emission Designator = 38M1G7D

Occupied Bandwidth = 38.11 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

QAM Modulation

Emission Designator = 38M1W7D

Occupied Bandwidth = 38.13 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

8.0 TEST RESULTS

8.1 Summary

Company Name: SAMSUNG Electronics Co., Ltd.

FCC ID: A3LMT1602D-48A

FCC Classification: Licensed Non-Broadcast Station Transmitter

Mode(s): 5G NR

FCC Part Section(s)	Test Description	Limit	Test Condition	Test Result	Reference
§ 2.1046	Conducted Average Output Power	N/A	CONDUCTED	PASS	Annex 1
§ 2.1049	Occupied Bandwidth	N/A		PASS	Section 8.2
§ 2.1046, § 27.50(j)(2)	Equivalent Isotropic Radiated Power (Power Spectral Density)	≤ 1640 W/MHz		PASS	Section 8.3
§ 2.1046, § 27.50(l)(4)	Peak-to-average ratio	≤ 13 dB		PASS	Section 8.4
§ 2.1051, § 27.53(l)(1)	Band Edge Emissions at Antenna Terminal	< 43 + log10(P[Watts]) at Band Edge and all out-of-band emissions		PASS	Section 8.5
§ 2.1051, § 27.53(l)(1)	Spurious and Harmonic Emissions at Antenna Terminal			PASS	Section 8.6
§ 2.1055 § 27.54	Frequency Stability	Fundamental emissions stay within authorized frequency block		PASS	Section 8.7
§ 2.1055, § 27.53(l)(1)	Radiated unwanted emission	< 43 + log10(P[Watts]) at Band Edge and all out-of-band emissions	RADIATED	PASS	Section 8.8

Table 8-1. Summary of Test Results

Notes:

1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.

2) The analyzer plots were all taken with a correction table loaded into the analyzer.

3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.

8.2 Occupied Bandwidth

Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 4.3

ANSI C63.26-2015 – Section 5.4.4

Test Setting

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The spectrum analyzer settings were as follows:

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

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

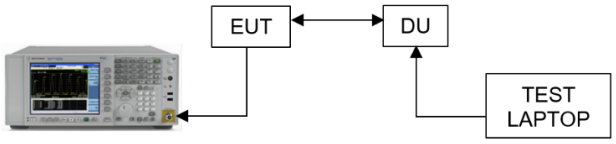


Figure 8-1. Test Instrument & Measurement Setup

Test Notes

None

Channel	OBW (MHz)			
	QPSK	16QAM	64QAM	256QAM
Low	**38.11**	38.11	**38.13**	38.06
Middle	38.09	38.01	38.08	38.02
High	38.07	38.06	38.06	38.02

Table 8-2. Occupied Bandwidth Summary Data (n77_1C_40M)

Channel	OBW (MHz)			
	QPSK	16QAM	64QAM	256QAM
Low	**58.49**	58.45	58.38	58.42
Middle	58.42	58.40	**58.47**	58.34
High	58.30	58.32	58.36	58.43

Table 8-3. Occupied Bandwidth Summary Data (n77_1C_60M)

Channel	OBW (MHz)			
	QPSK	16QAM	64QAM	256QAM
Low	77.83	77.74	77.77	77.73
Middle	**77.92**	77.84	**77.98**	77.75
High	77.64	77.73	77.75	77.79

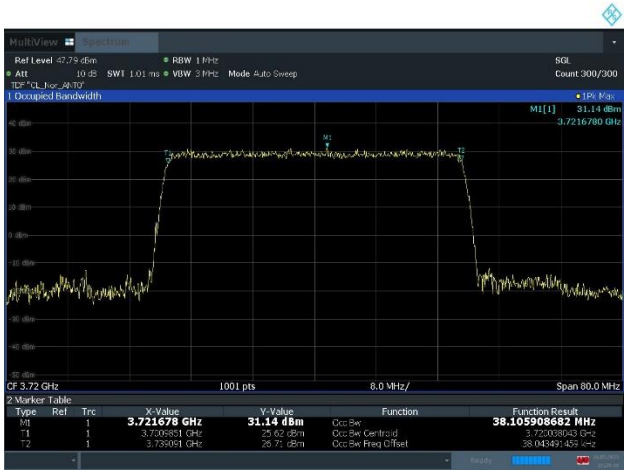
Table 8-4. Occupied Bandwidth Summary Data (n77_1C_80M)

Channel	OBW (MHz)			
	QPSK	16QAM	64QAM	256QAM
Low	**97.74**	97.62	97.67	97.59
Middle	97.56	97.61	**97.70**	97.69
High	97.51	97.51	97.47	97.62

Table 8-5. Occupied Bandwidth Summary Data (n77_1C_100M)

Mode	OBW (MHz)	
	QPSK	16QAM
n77_2C_100M+40M	**136.92**	**137.00**
n77_2C_100M+100M	**196.07**	**196.17**

Table 8-6. Occupied Bandwidth Summary Data (n77_Multi-carrier)

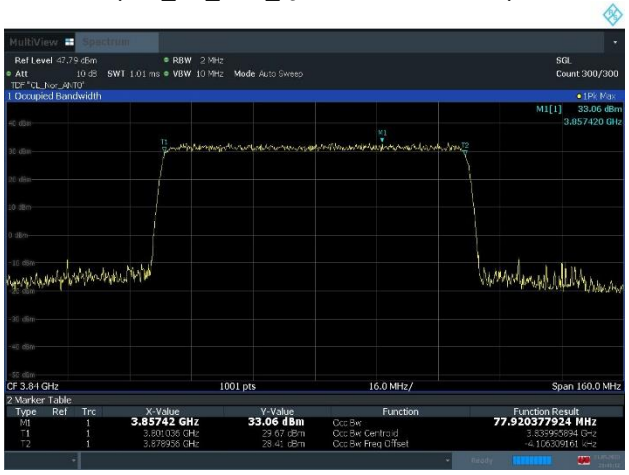


Plot 8-1. Occupied Bandwidth Plot
(n77_1C_40M_QPSK - Low Channel)

Plot 8-2. Occupied Bandwidth Plot
(n77_1C_40M_64AM - Low Channel)

Plot 8-3. Occupied Bandwidth Plot
(n77_1C_60M_QPSK - Low Channel)

Plot 8-4. Occupied Bandwidth Plot
(n77_1C_60M_64QAM - Mid Channel)



Plot 8-5. Occupied Bandwidth Plot
(n77_1C_80M_QPSK - Mid Channel)

Plot 8-6. Occupied Bandwidth Plot
(n77_1C_80M_64QAM - Mid Channel)

Plot 8-7. Occupied Bandwidth Plot
(n77_1C_100M_QPSK - Low Channel)

Plot 8-8. Occupied Bandwidth Plot
(n77_1C_100M_64QAM - Mid Channel)

Plot 8-9. Occupied Bandwidth Plot
(n77_2C_100+40M_QPSK - Mid Channel)

Plot 8-10. Occupied Bandwidth Plot
(n77_2C_100+40M_16QAM - Mid Channel)

Plot 8-11. Occupied Bandwidth Plot
(n77_2C_100+100M_QPSK - Mid Channel)

Plot 8-12. Occupied Bandwidth Plot
(n77_2C_100+100M_16QAM - Mid Channel)

8.3 Equivalent Isotropic Radiated Power: FCC Part 27.50(j)

Test Overview

A transmitter port of EUT is connected to the input of a signal analyzer. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 5.2
KDB 662911 D01 v02r01 – Section E)2) In-Band Power Spectral Density (PSD) Measurements
b) Measure and sum spectral maxima across the outputs.
ANSI C63.26-2015 – Section 5.2.4

Test Setting

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The spectrum analyzer settings were as follows:

1. Conducted power measurements are performed using the signal analyzer's "SA mode" measurement capability for signals with continuous operation.
2. Set span to 2 × to 3 × the OBW.
3. Set RBW = 1 MHz (the reference bandwidth)
4. Set VBW ≥ 3 × RBW.
5. Set number of measurement points in sweep ≥ 2 × span / RBW.
6. Sweep time:
   a) Set ≥ auto-couple, and enable trace averaging, or
   b) Set ≥ [10 × (number of points in sweep) × (transmission symbol period)] and enable a single sweep (automation-compatible) measurement. The sweep time should never be faster than the auto-coupled sweep time.
7. Detector = power averaging (rms).
8. The trace was allowed to stabilize
9. Use the peak marker function to determine the maximum amplitude level. (=P_{Meas})
10. The relevant equation for determining the maximum EIRP from the measured RF output power is given in Equation as follows:
    EIRP = P_{Meas} + G_T
    where
    GT: gain of the transmitting antenna, in dBi (EIRP).

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

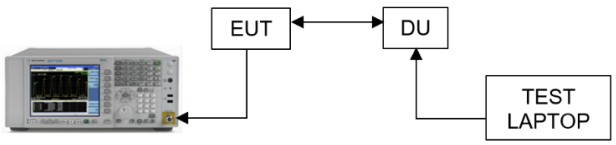


Figure 8-2. Test Instrument & Measurement Setup

Limit

§ 27.50 (j) (2)
The power of each fixed or base station transmitting in the 3700-3980 MHz band and situated in any geographic location other than that described in paragraph (j)(1) of this section is limited to an EIRP of 1640 Watts/MHz. This limit applies to the aggregate power of all antenna elements in any given sector of a base station.

Test Notes

1. Consider the following factors for MIMO:
   The output power per each port is measured as dBm/MHz or dBm, the output powers are summed up in linear using the measure-and-sum technique defined in KDB 971168 D01 v03r01 - Section E) 2).

2. The output power per port (dBm/MHz or dBm) is converted to a linear value (mW). A summation of linear powers for all ports gives us the total MIMO Conducted Power (mW). We convert this back to logarithmic scale for further output power calculations.

3. For test result, it added 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

4. All transmit signals from different antennas are completely uncorrelated with each other. So the maximum output power shall be calculated based on the aggregate power conducted across all antennas.

5. Sample Calculation:
   Let us assume the following numbers:
   a) Total MIMO Conducted Power as 720.43 milliWatts
   b)

Factors		Value	Unit
Summed MIMO Conducted Power (linear sum)		720.43	mW/MHz
Summed MIMO Conducted Power (dBm)	= 10 * log (720.43) =	28.58	dBm/MHz
Antenna Gain		21.20	dBi
Total e.i.r.p	= 28.58 + 21.20	49.78	dBm/MHz
Limit	= 10 * log (1640) + 30	62.15	dBm/MHz

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Low	0	20.92	20.67	20.85	20.65
	1	21.04	21.13	21.09	21.21
	2	20.90	20.71	20.97	20.80
	3	20.76	20.86	20.99	20.94
	4	20.86	20.76	20.85	20.78
	5	21.10	20.92	21.15	21.04
	6	20.83	20.92	21.06	20.93
	7	20.86	21.14	21.03	20.93
	8	20.84	20.84	20.87	20.85
	9	20.87	20.91	21.00	21.04
	10	20.86	20.87	21.02	20.84
	11	20.92	20.81	20.88	20.72
	12	20.71	20.60	20.66	20.64
	13	21.01	20.97	20.93	20.97
	14	20.63	20.61	20.68	20.70
	15	20.67	20.57	20.64	20.71
Total MIMO PSD Power (mW/MHz)		1951.73	1938.67	1977.25	1951.36
Total MIMO PSD Power (dBm/MHz)		32.90	32.88	32.96	32.90
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		53.60	53.58	53.66	53.60
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Middle	0	20.92	20.83	20.86	20.94
	1	**21.56**	21.52	21.46	**21.60**
	2	21.18	21.09	21.11	21.08
	3	21.27	21.07	21.22	21.18
	4	20.93	20.95	20.97	20.98
	5	21.29	21.35	21.39	21.27
	6	21.05	21.05	21.04	21.09
	7	21.09	21.13	20.94	21.07
	8	20.92	21.01	20.97	20.96
	9	21.31	21.24	21.18	21.33
	10	21.06	21.08	20.98	20.92
	11	21.27	21.34	21.16	21.26
	12	20.98	20.88	20.84	20.86
	13	21.30	21.13	21.15	21.33
	14	20.92	20.95	20.89	20.93
	15	20.99	20.91	20.91	20.95
Total MIMO PSD Power (mW/MHz)		2076.17	2060.96	2047.27	2067.80
Total MIMO PSD Power (dBm/MHz)		33.17	33.14	33.11	33.16
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		53.87	53.84	53.81	53.86
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
High	0	20.94	20.98	20.85	20.90
	1	21.23	21.03	21.01	21.13
	2	21.16	20.93	21.03	21.06
	3	21.16	21.14	21.15	21.03
	4	21.08	21.03	20.95	21.06
	5	21.21	21.13	21.22	21.11
	6	21.17	21.18	21.12	21.21
	7	21.02	20.99	21.02	20.96
	8	21.02	21.05	20.86	20.91
	9	21.23	21.06	21.20	21.07
	10	21.12	21.12	20.89	20.92
	11	21.27	21.12	21.08	20.99
	12	21.00	20.98	20.89	20.92
	13	21.17	21.10	21.11	21.09
	14	21.11	20.89	20.84	21.09
	15	20.82	21.06	20.80	20.87
Total MIMO PSD Power (mW/MHz)		2065.21	2037.64	2015.79	2024.07
Total MIMO PSD Power (dBm/MHz)		33.15	33.09	33.04	33.06
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		53.85	53.79	53.74	53.76
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Table 8-7. Peak Power Spectral Density Table (n77_1C_40M)

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Low	0	20.76	20.93	20.91	20.94
	1	21.45	21.33	21.33	21.48
	2	21.09	21.08	21.05	21.15
	3	21.02	21.16	21.09	21.17
	4	21.08	21.04	21.13	21.13
	5	21.24	21.23	21.28	21.24
	6	21.25	21.21	21.34	21.10
	7	21.12	21.18	21.17	21.18
	8	21.11	21.03	20.97	20.97
	9	21.21	21.27	21.25	21.31
	10	21.16	21.17	21.15	21.03
	11	21.09	21.07	21.11	21.17
	12	20.89	20.90	20.82	20.89
	13	21.33	21.16	21.26	21.25
	14	20.82	20.84	20.89	20.82
	15	20.94	20.94	20.87	21.01
Total MIMO PSD Power (mW/MHz)		2061.73	2060.44	2063.26	2069.79
Total MIMO PSD Power (dBm/MHz)		33.14	33.14	33.15	33.16
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		53.84	53.84	53.85	53.86
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Middle	0	21.08	21.01	21.15	21.10
	1	21.62	21.62	21.65	**21.68**
	2	21.22	21.10	21.23	21.25
	3	21.40	21.21	21.38	21.39
	4	21.15	21.10	21.14	21.11
	5	21.44	21.40	21.47	21.53
	6	21.34	21.17	21.30	21.29
	7	21.31	21.16	21.28	21.24
	8	21.22	21.13	21.27	21.12
	9	21.39	21.39	21.47	21.46
	10	21.11	21.07	21.06	21.14
	11	21.58	21.43	21.61	21.42
	12	21.07	21.01	21.22	21.11
	13	21.47	21.32	21.38	21.49
	14	21.08	20.94	21.12	21.10
	15	21.13	21.15	21.26	21.28
Total MIMO PSD Power (mW/MHz)		2154.23	2111.30	2165.84	2157.34
Total MIMO PSD Power (dBm/MHz)		33.33	33.25	33.36	33.34
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		54.03	53.95	54.06	54.04
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
High	0	21.25	21.08	21.18	21.05
	1	**21.66**	21.32	21.40	21.36
	2	21.27	21.30	21.15	21.26
	3	21.52	21.34	21.37	21.38
	4	21.40	21.35	21.26	21.21
	5	21.47	21.48	21.42	21.34
	6	21.40	21.27	21.33	21.34
	7	21.23	21.26	21.31	21.26
	8	21.25	21.23	21.14	21.18
	9	21.42	21.40	21.38	21.41
	10	21.24	21.18	21.38	21.28
	11	21.36	21.47	21.43	21.31
	12	21.51	21.45	21.26	21.30
	13	21.49	21.38	21.31	21.38
	14	21.27	21.17	21.39	21.19
	15	21.25	21.22	21.08	21.17
Total MIMO PSD Power (mW/MHz)		2196.55	2162.16	2158.68	2147.07
Total MIMO PSD Power (dBm/MHz)		33.42	33.35	33.34	33.32
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		54.12	54.05	54.04	54.02
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Table 8-8. Peak Power Spectral Density Table (n77_1C_60M)

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Low	0	19.75	19.68	19.65	19.67
	1	20.12	20.10	20.18	20.11
	2	19.91	19.87	19.93	19.92
	3	19.83	19.78	19.91	19.93
	4	19.90	19.79	19.90	19.82
	5	20.08	19.91	19.99	20.03
	6	19.92	19.87	19.95	19.93
	7	19.86	19.78	20.11	19.88
	8	19.71	19.89	20.01	19.87
	9	20.06	19.92	20.00	20.08
	10	19.91	19.85	19.87	19.89
	11	19.84	19.87	19.95	19.85
	12	19.66	19.77	19.66	19.70
	13	20.01	20.00	20.06	19.99
	14	19.49	19.67	19.61	19.56
	15	19.73	19.65	19.66	19.76
Total MIMO PSD Power (mW/MHz)		1550.76	1541.79	1565.63	1555.23
Total MIMO PSD Power (dBm/MHz)		31.91	31.88	31.95	31.92
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		52.61	52.58	52.65	52.62
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Middle	0	19.82	19.93	19.72	19.72
	1	20.33	20.52	20.40	20.33
	2	20.08	20.06	19.96	19.90
	3	20.19	20.15	20.07	20.26
	4	19.86	19.94	19.98	19.96
	5	20.14	20.23	20.22	20.21
	6	19.97	20.07	19.98	20.00
	7	20.02	20.02	20.08	20.02
	8	19.83	19.76	19.88	19.77
	9	20.21	20.24	20.15	20.14
	10	19.88	20.01	19.93	19.81
	11	20.28	20.23	20.17	20.25
	12	19.84	19.94	19.85	19.81
	13	20.19	20.24	20.16	20.21
	14	19.95	19.85	19.90	19.86
	15	19.93	19.95	19.88	20.21
Total MIMO PSD Power (mW/MHz)		1613.20	1627.92	1608.79	1612.26
Total MIMO PSD Power (dBm/MHz)		32.08	32.12	32.06	32.07
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		52.78	52.82	52.76	52.77
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
High	0	20.05	20.03	19.89	19.86
	1	**20.35**	20.25	20.22	20.39
	2	19.99	20.17	20.14	20.02
	3	20.28	20.18	20.15	20.15
	4	20.08	20.10	20.13	20.14
	5	20.23	20.27	20.26	20.46
	6	20.16	20.36	20.22	20.13
	7	19.97	20.13	19.99	19.99
	8	19.98	20.03	20.02	19.85
	9	20.32	20.19	20.12	20.30
	10	20.05	20.03	20.14	20.14
	11	20.19	20.51	20.26	20.30
	12	20.02	20.10	20.16	20.14
	13	20.28	**20.59**	20.18	20.25
	14	19.99	20.12	19.99	19.99
	15	19.97	20.11	19.98	20.02
Total MIMO PSD Power (mW/MHz)		1645.36	1675.83	1643.66	1651.08
Total MIMO PSD Power (dBm/MHz)		32.16	32.24	32.16	32.18
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		52.86	52.94	52.86	52.88
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Table 8-9. Peak Power Spectral Density Table (n77_1C_80M)

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Low	0	18.36	18.44	18.35	18.32
	1	18.95	18.89	18.99	19.02
	2	18.66	18.49	18.41	18.44
	3	18.67	18.59	18.55	18.55
	4	18.64	18.52	18.52	18.52
	5	19.05	18.78	18.93	18.74
	6	18.71	18.62	18.68	18.71
	7	18.71	18.52	18.66	18.68
	8	18.48	18.48	18.50	18.44
	9	18.78	18.72	18.81	18.69
	10	18.65	18.52	18.50	18.51
	11	18.71	18.67	18.52	18.68
	12	18.31	18.29	18.38	18.26
	13	18.65	18.76	18.73	18.68
	14	18.36	18.26	18.33	18.26
	15	18.41	18.38	18.47	18.48
Total MIMO PSD Power (mW/MHz)		1168.72	1148.86	1155.76	1149.96
Total MIMO PSD Power (dBm/MHz)		30.68	30.60	30.63	30.61
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		51.38	51.30	51.33	51.31
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
Middle	0	18.50	18.57	18.58	18.72
	1	19.12	19.14	19.19	19.21
	2	18.66	18.70	18.74	18.65
	3	18.84	18.81	18.90	18.81
	4	18.65	18.64	18.65	18.70
	5	18.92	19.07	19.04	19.03
	6	18.68	18.72	18.77	18.82
	7	18.67	18.82	18.83	18.69
	8	18.64	18.61	18.68	18.48
	9	19.01	18.87	18.90	18.86
	10	18.68	18.60	18.72	18.69
	11	18.94	18.92	18.99	18.87
	12	18.62	18.47	18.65	18.56
	13	19.06	18.97	18.98	18.89
	14	18.53	18.52	18.62	18.59
	15	18.57	18.80	18.67	18.69
Total MIMO PSD Power (mW/MHz)		1202.55	1204.96	1216.59	1205.34
Total MIMO PSD Power (dBm/MHz)		30.80	30.81	30.85	30.81
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		51.50	51.51	51.55	51.51
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Channel	Port	PSD Power (dBm/MHz)			
		QPSK	16QAM	64QAM	256QAM
High	0	18.91	18.90	18.82	18.75
	1	19.32	**19.38**	19.14	19.15
	2	19.06	19.13	19.11	18.87
	3	19.26	19.19	19.04	19.03
	4	19.02	18.96	18.92	18.92
	5	**19.34**	19.24	19.15	19.17
	6	19.28	19.28	18.95	19.02
	7	19.14	19.05	19.01	18.90
	8	19.10	19.08	18.93	18.64
	9	19.18	19.13	19.08	18.99
	10	19.09	19.06	19.07	18.97
	11	19.22	19.35	19.19	19.11
	12	19.06	19.26	19.04	18.77
	13	19.33	19.26	19.17	18.89
	14	19.02	18.98	19.01	18.87
	15	19.10	19.06	18.85	18.70
Total MIMO PSD Power (mW/MHz)		1316.70	1314.54	1280.13	1249.02
Total MIMO PSD Power (dBm/MHz)		31.19	31.19	31.07	30.97
Antenna Gain (dBi)		20.70	20.70	20.70	20.70
EIRP (dBm/MHz)		51.89	51.89	51.77	51.67
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15			

Table 8-10. Peak Power Spectral Density Table (n77_1C_100M)

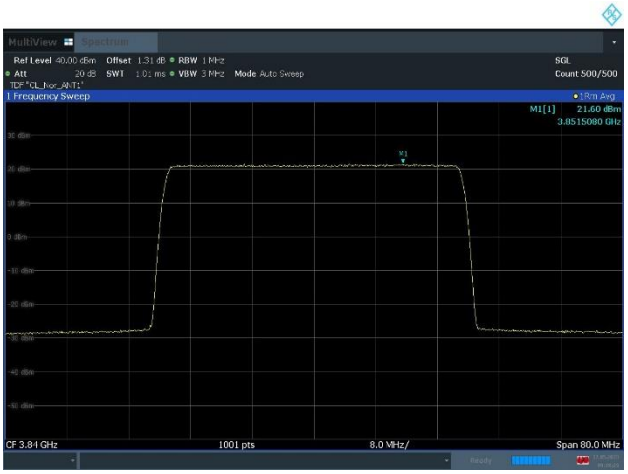
Channel	Port	PSD Power (dBm/MHz)	
		QPSK	16QAM
Mid	0	17.11	17.36
	1	**17.90**	**17.99**
	2	17.37	17.49
	3	17.50	17.61
	4	17.44	17.38
	5	17.65	17.70
	6	17.49	17.62
	7	17.46	17.53
	8	17.41	17.31
	9	17.56	17.79
	10	17.37	17.44
	11	17.70	17.67
	12	17.29	17.26
	13	17.69	17.79
	14	17.28	17.39
	15	17.39	17.58
Total MIMO PSD Power (mW/MHz)		895.54	912.52
Total MIMO PSD Power (dBm/MHz)		29.52	29.60
Antenna Gain (dBi)		20.70	20.70
EIRP (dBm/MHz)		50.22	50.30
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15	

Table 8-11. Peak Power Spectral Density Table (n77_2C_100M+40M)

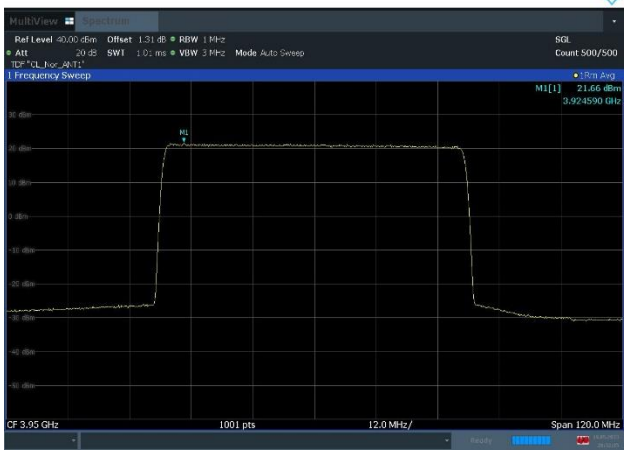
Channel	Port	PSD Power (dBm/MHz)	
		QPSK	16QAM
Mid	0	15.76	15.60
	1	**16.18**	**16.29**
	2	15.78	15.67
	3	15.90	15.94
	4	15.83	15.86
	5	16.06	16.19
	6	15.88	15.81
	7	15.85	15.85
	8	15.81	15.70
	9	16.08	16.05
	10	15.73	15.72
	11	16.02	15.98
	12	15.86	15.77
	13	15.97	15.85
	14	15.70	15.53
	15	15.76	15.75
Total MIMO PSD Power (mW/MHz)		620.72	615.64
Total MIMO PSD Power (dBm/MHz)		27.93	27.89
Antenna Gain (dBi)		20.70	20.70
EIRP (dBm/MHz)		48.63	48.59
Limit (dBm/MHz) FCC Part 27.50(j)(2)		62.15	

Table 8-12. Peak Power Spectral Density Table (n77_2C_100M+100M)

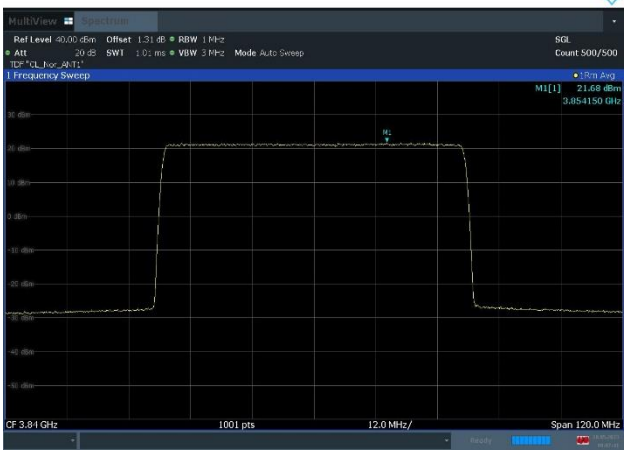
Plot 8-13. Peak Power Spectral Density Plot (n77_1C_40M_QPSK - Mid Channel, Port 1)



Plot 8-14. Peak Power Spectral Density Plot (n77_1C_40M_256QAM - Mid Channel, Port 1)

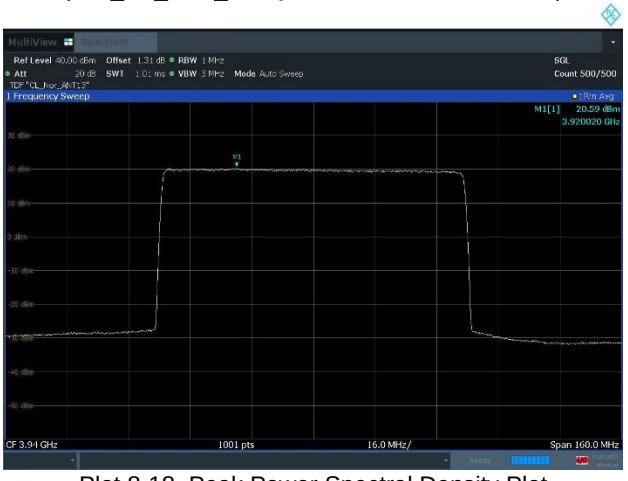


Plot 8-15. Peak Power Spectral Density Plot (n77_1C_60M_QPSK - High Channel, Port 1)

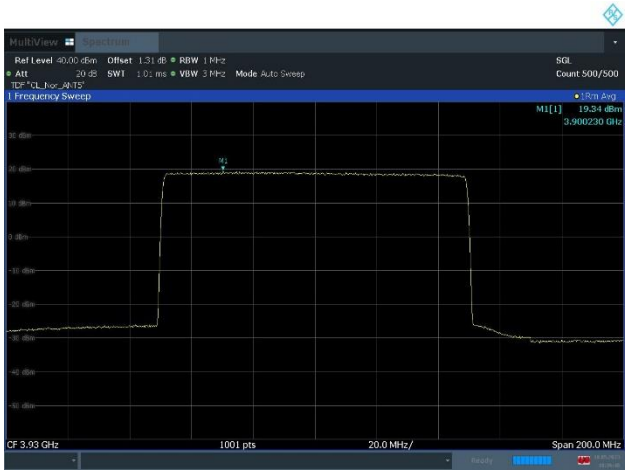


Plot 8-16. Peak Power Spectral Density Plot (n77_1C_60M_256QAM - Mid Channel, Port 1)

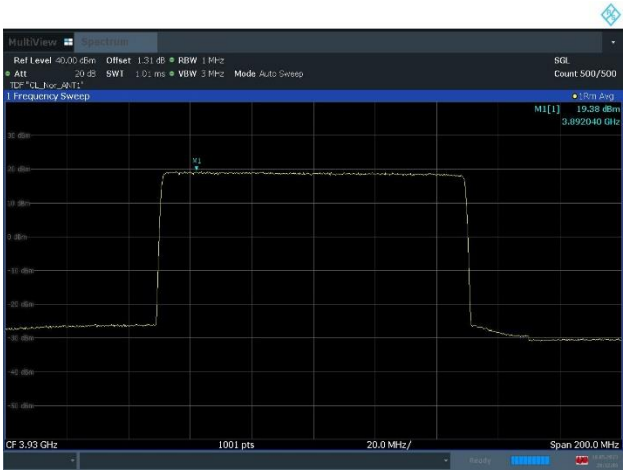
Plot 8-17. Peak Power Spectral Density Plot (n77_1C_80M_QPSK - High Channel, Port 1)



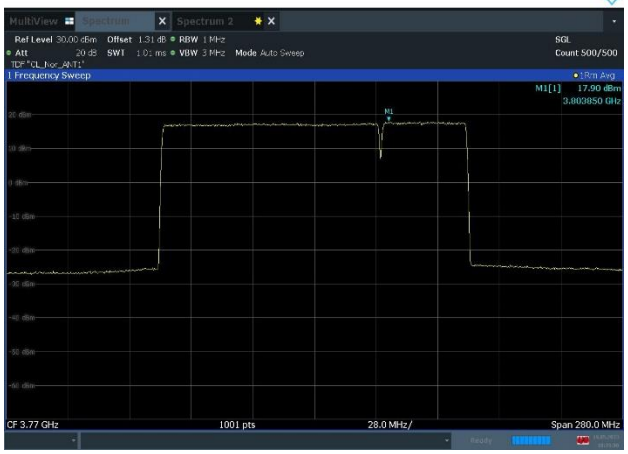
Plot 8-18. Peak Power Spectral Density Plot (n77_1C_80M_16QAM - High Channel, Port 13)



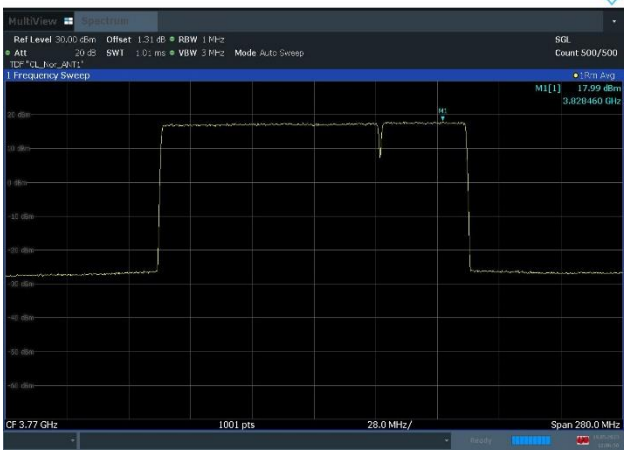
Plot 8-19. Peak Power Spectral Density Plot
(n77_1C_100M_QPSK - High Channel, Port 5)



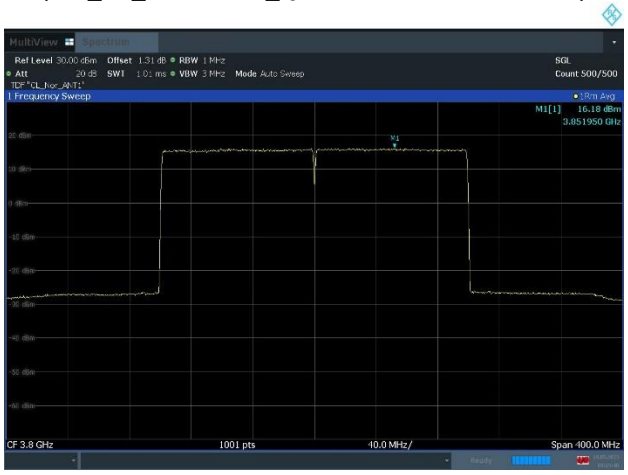
Plot 8-20. Peak Power Spectral Density Plot
(n77_1C_100M_16QAM - High Channel, Port 1)



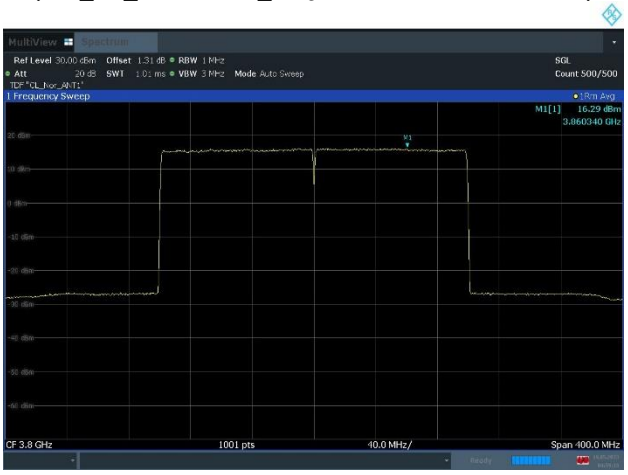
Plot 8-21. Peak Power Spectral Density Plot
(n77_2C_100M+40M_QPSK - Mid Channel, Port 1)



Plot 8-22. Peak Power Spectral Density Plot
(n77_2C_100M+40M_16QAM - Mid Channel, Port 1)



Plot 8-23. Peak Power Spectral Density Plot
(n77_2C_100M+100M_QPSK - Mid Channel, Port 1)



Plot 8-24. Peak Power Spectral Density Plot
(n77_2C_100M+100M_16QAM - Mid Channel, Port 1)

8.4 Peak To Average Ratio

Test Overview

The peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 5.7

ANSI C63.26-2015 – Section 5.2.3.4

Test Setting

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The spectrum analyzer settings were as follows:

1. The signal analyzer's CCDF function is enabled.
2. Frequency = carrier center frequency
3. Measurement BW ≥ OBW or specified reference bandwidth
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

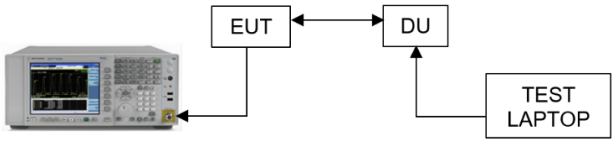


Figure 8-3. Test Instrument & Measurement Setup

Limit

§ 27.50 (j) (4)
Measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Channel	PAPR (dB)				Limit (dB)
	QPSK	16QAM	64QAM	256QAM	
Low	**8.50**	8.32	8.48	8.50	≤ 13
Middle	8.48	8.32	8.50	8.52	
High	8.50	8.34	8.48	**8.54**	

Table 8-13. Peak To Average Power Ratio Summary Data (n77_1C_40M)

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low		7.52	7.54	7.54	7.54	≤ 13
Middle		7.54	7.56	7.54	7.56	
High		**7.62**	**7.66**	7.64	7.62	

Table 8-14. Peak To Average Power Ratio Summary Data (n77_1C_60M)

Channel	PAPR (dB)				Limit (dB)
	QPSK	16QAM	64QAM	256QAM	
Low	7.50	7.50	7.52	7.54	≤ 13
Middle	7.52	7.50	7.54	7.54	
High	**7.64**	7.66	**7.70**	7.68	

Table 8-15. Peak To Average Power Ratio Summary Data (n77_1C_80M)

Channel	PAPR (dB)				Limit (dB)
	QPSK	16QAM	64QAM	256QAM	
Low	7.70	7.72	7.70	7.72	≤ 13
Middle	7.70	7.72	7.72	7.74	
High	**7.78**	7.78	7.78	**7.82**	

Table 8-16. Peak To Average Power Ratio Summary Data (n77_1C_100M)

Channel	PAPR (dB)				Limit (dB)
	n77_2C_100M+40M		n77_2C_100M+100M		
	QPSK	16QAM	QPSK	16QAM	
Middle	**7.78**	**7.82**	**7.90**	**7.90**	≤ 13

Table 8-17. Peak To Average Power Ratio Summary Data (n77_Multi-carrier)

Plot 8-25. Peak To Average Power Ratio Plot
(n77_1C_40M_QPSK - Low Channel)

Plot 8-26. Peak To Average Power Ratio Plot
(n77_1C_40M_256QAM - High Channel)

Plot 8-27. Peak To Average Power Ratio Plot
(n77_1C_60M_QPSK - High Channel)

Plot 8-28. Peak To Average Power Ratio Plot
(n77_1C_60M_16QAM - High Channel)

Plot 8-29. Peak To Average Power Ratio Plot
(n77_1C_80M_QPSK - High Channel)

Plot 8-30. Peak To Average Power Ratio Plot
(n77_1C_80M_64QAM - High Channel)

Plot 8-31. Peak To Average Power Ratio Plot
(n77_1C_100M_QPSK - High Channel)

Plot 8-32. Peak To Average Power Ratio Plot
(n77_1C_100M_256QAM - High Channel)

Plot 8-33. Peak To Average Power Ratio Plot
(n77_2C_100M+40M_QPSK - Mid Channel)

Plot 8-34. Peak To Average Power Ratio Plot
(n77_2C_100M+40M_16QAM - Mid Channel)

Plot 8-35. Peak To Average Power Ratio Plot
(n77_2C_100M+100M_QPSK - Mid Channel)

Plot 8-36. Peak To Average Power Ratio Plot
(n77_2C_100M+100M_16QAM - Mid Channel)

8.5 Band Edge Emissions at Antenna Terminal

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6
KDB 662911 D01 v02r01 – Section E)3) Out-of-Band and Spurious Emission Measurements
a) Absolute Emission Limits
ii) Measure and sum spectral maxima across the outputs
ANSI C63.26-2015 – Section 5.7.3

Test Setting

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW: Please see test notes below.
4. VBW ≥ 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Limit

§ 27.53 (l)(1)
For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

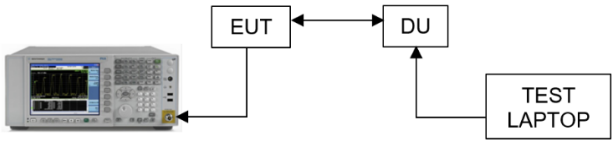


Figure 8-4. Test Instrument & Measurement Setup

Test Notes

1. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

2. Detect with a margin of under 1dB to limit, the integration method was performed using the spectrum analyzer's band power functions according to ANSI C63.26-2015 – Section 5.7 and using the method KDB 971168 D01 v03r01 - Section E) 3) ii). The integration value was set to a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter.

3. Consider the following factors for MIMO:
   The Band edge emissions per each port is measured as dBm/MHz or dBm, the emissions are summed up in linear using the measure-and-sum technique defined in KDB 971168 D01 v03r01 - Section E) 3) ii).

4. The Band edge emissions per port (dBm/MHz or dBm) is converted to a linear value (mW). A summation of linear powers for all ports gives us the total MIMO Conducted emissions (mW). We convert this back to logarithmic scale for further output power calculations.

5. For test result, it added 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

6. All transmit signals from different antennas are completely uncorrelated with each other. So the maximum emissions shall be calculated based on the aggregate emission conducted across all antennas.

7. Sample Calculation:
   Let us assume the following numbers:
   a) Total MIMO Emission power as 0.00687 milliWatts
   b)

Factors		Value	Unit
Summed MIMO Emission power (linear sum)		0.00687	mW
Summed MIMO Emission power (dBm)	= 10 * log (0.00687)	-21.63	dBm
Limit		-13	dBm
Margin	= Summed MIMO Emission power (dBm) - Limit	-8.63	dB

CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
Low	0	3699MHz to 3700MHz	-34.03	-34.50	-33.27	-34.01
	1	3699MHz to 3700MHz	-33.40	-33.26	-33.21	-33.51
	2	3699MHz to 3700MHz	-32.74	-33.90	-33.31	-33.85
	3	3699MHz to 3700MHz	-33.60	-34.69	-33.20	-33.82
	4	3699MHz to 3700MHz	-32.50	-33.96	-32.55	-32.65
	5	3699MHz to 3700MHz	-34.84	-34.20	-34.67	-34.11
	6	3699MHz to 3700MHz	-33.75	-33.70	-32.81	-32.68
	7	3699MHz to 3700MHz	-33.23	-33.61	-33.73	-34.62
	8	3699MHz to 3700MHz	-34.58	-34.04	-34.45	-33.56
	9	3699MHz to 3700MHz	-33.96	-32.92	-33.84	-33.70
	10	3699MHz to 3700MHz	-33.54	-32.58	**-32.24**	-32.36
	11	3699MHz to 3700MHz	-33.96	-34.22	-34.91	-34.41
	12	3699MHz to 3700MHz	-32.26	-32.84	-32.29	-33.02
	13	3699MHz to 3700MHz	-34.08	-33.67	-33.91	-34.02
	14	3699MHz to 3700MHz	-34.78	-34.08	-33.98	-34.37
	15	3699MHz to 3700MHz	-34.48	-34.73	-32.70	-33.45
	SUM		-21.63	-21.72	-21.33	-21.54
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-8.63	-8.72	-8.33	-8.54
CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
High	0	3980MHz to 3981MHz	-34.30	-33.13	-33.57	-32.71
	1	3980MHz to 3981MHz	-34.57	-33.80	-32.95	-33.62
	2	3980MHz to 3981MHz	-32.90	-32.36	-31.98	-31.88
	3	3980MHz to 3981MHz	-33.34	-33.51	-33.01	-32.86
	4	3980MHz to 3981MHz	-33.79	-32.94	-33.24	-33.07
	5	3980MHz to 3981MHz	-33.10	-33.75	-32.13	-32.31
	6	3980MHz to 3981MHz	-33.89	-33.38	-32.61	-31.91
	7	3980MHz to 3981MHz	-34.44	-34.32	-34.11	-33.40
	8	3980MHz to 3981MHz	-31.42	-32.69	-31.14	-32.63
	9	3980MHz to 3981MHz	-32.92	-33.30	-33.05	-32.78
	10	3980MHz to 3981MHz	-33.42	-33.65	-34.26	-34.29
	11	3980MHz to 3981MHz	-32.98	-34.06	-33.73	-33.00
	12	3980MHz to 3981MHz	-29.21	-28.86	-29.16	**-28.67**
	13	3980MHz to 3981MHz	-34.01	-32.75	-33.97	-33.43
	14	3980MHz to 3981MHz	-33.15	-33.53	-33.20	-32.99
	15	3980MHz to 3981MHz	-32.97	-33.07	-33.93	-33.48
	SUM		-20.89	-20.82	-20.62	-20.44
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-7.89	-7.82	-7.62	-7.44

Table 8-18. Band Edge Emission Summary Data (n77_1C_40M)

CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
Low	0	3699MHz to 3700MHz	-33.57	-33.74	-32.30	-33.18
	1	3699MHz to 3700MHz	-31.78	-32.66	-32.07	-32.28
	2	3699MHz to 3700MHz	-33.50	-33.37	-33.64	-33.61
	3	3699MHz to 3700MHz	-32.60	-32.53	-32.53	-33.10
	4	3699MHz to 3700MHz	-32.02	-31.48	-30.94	-30.48
	5	3699MHz to 3700MHz	-30.42	-32.07	-33.04	-32.82
	6	3699MHz to 3700MHz	-33.27	-31.86	-32.98	-32.59
	7	3699MHz to 3700MHz	-32.58	-34.07	-33.31	-33.39
	8	3699MHz to 3700MHz	-31.86	-32.41	-33.51	-31.98
	9	3699MHz to 3700MHz	-32.84	-32.25	-33.08	-32.40
	10	3699MHz to 3700MHz	-31.48	-32.11	-31.95	-29.94
	11	3699MHz to 3700MHz	-32.13	-32.41	-32.92	-32.15
	12	3699MHz to 3700MHz	-30.11	**-29.86**	-30.60	-30.00
	13	3699MHz to 3700MHz	-33.18	-32.58	-32.60	-32.26
	14	3699MHz to 3700MHz	-32.01	-32.01	-31.83	-32.19
	15	3699MHz to 3700MHz	-32.85	-33.38	-33.89	-32.84
	SUM		-20.11	-20.27	-20.44	-20.01
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-7.11	-7.27	-7.44	-7.01

CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
High	0	3980MHz to 3981MHz	-33.50	-32.40	-32.32	-31.84
	1	3980MHz to 3981MHz	-33.34	-32.45	-32.20	-32.26
	2	3980MHz to 3981MHz	-32.09	-31.58	-32.53	-31.30
	3	3980MHz to 3981MHz	-33.00	-33.09	-32.77	-32.68
	4	3980MHz to 3981MHz	-32.70	-33.10	-32.68	-32.22
	5	3980MHz to 3981MHz	-31.96	-31.37	-31.56	-31.65
	6	3980MHz to 3981MHz	-32.98	-32.62	-33.02	-31.94
	7	3980MHz to 3981MHz	-33.25	-32.04	-33.39	-32.98
	8	3980MHz to 3981MHz	-32.56	-32.36	-32.33	-32.93
	9	3980MHz to 3981MHz	-33.62	-33.29	-33.98	-33.80
	10	3980MHz to 3981MHz	-33.44	-34.12	-34.08	-34.84
	11	3980MHz to 3981MHz	-32.91	-34.10	-33.28	-33.25
	12	3980MHz to 3981MHz	-28.57	-28.71	**-27.78**	-28.35
	13	3980MHz to 3981MHz	-34.40	-33.89	-34.47	-33.19
	14	3980MHz to 3981MHz	-33.16	-32.34	-33.14	-32.92
	15	3980MHz to 3981MHz	-33.30	-33.99	-33.88	-33.84
	SUM		-20.54	-20.32	-20.35	-20.20
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-7.54	-7.32	-7.35	-7.20

Table 8-19. Band Edge Emission Summary Data (n77_1C_60M)

CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
Low	0	3699MHz to 3700MHz	-32.12	-32.69	-32.66	-32.45
	1	3699MHz to 3700MHz	-31.32	-32.61	-31.37	-31.73
	2	3699MHz to 3700MHz	-33.55	-33.13	-33.22	-33.04
	3	3699MHz to 3700MHz	-32.33	-32.79	-32.28	-32.12
	4	3699MHz to 3700MHz	-31.48	-29.38	**-29.17**	-31.19
	5	3699MHz to 3700MHz	-33.43	-31.69	-32.25	-31.57
	6	3699MHz to 3700MHz	-32.91	-32.71	-32.42	-32.04
	7	3699MHz to 3700MHz	-32.34	-32.60	-32.46	-32.21
	8	3699MHz to 3700MHz	-32.31	-32.18	-32.18	-32.46
	9	3699MHz to 3700MHz	-32.79	-31.74	-32.34	-32.35
	10	3699MHz to 3700MHz	-31.30	-30.16	-31.65	-30.84
	11	3699MHz to 3700MHz	-31.90	-31.86	-32.16	-31.41
	12	3699MHz to 3700MHz	-29.95	-29.89	-30.09	-29.66
	13	3699MHz to 3700MHz	-32.26	-32.03	-32.38	-32.41
	14	3699MHz to 3700MHz	-32.04	-31.97	-31.75	-31.99
	15	3699MHz to 3700MHz	-32.83	-33.14	-32.74	-32.74
	SUM		-20.05	-19.71	-19.78	-19.77
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-7.05	-6.71	-6.78	-6.77

CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
High	0	3980MHz to 3981MHz	-31.85	-31.99	-31.95	-31.81
	1	3980MHz to 3981MHz	-31.31	-30.75	-30.51	-29.98
	2	3980MHz to 3981MHz	-31.17	-31.47	-31.55	-32.07
	3	3980MHz to 3981MHz	-32.42	-32.69	-32.65	-32.46
	4	3980MHz to 3981MHz	-31.64	-31.32	-32.37	-31.63
	5	3980MHz to 3981MHz	-30.86	-30.62	-30.34	-30.90
	6	3980MHz to 3981MHz	-31.68	-31.77	-32.67	-32.03
	7	3980MHz to 3981MHz	-31.74	-31.90	-32.27	-32.25
	8	3980MHz to 3981MHz	-31.18	-31.11	-31.30	-31.98
	9	3980MHz to 3981MHz	-32.84	-33.08	-33.00	-32.54
	10	3980MHz to 3981MHz	-32.87	-31.32	-33.21	-32.59
	11	3980MHz to 3981MHz	-32.44	-32.63	-33.01	-32.45
	12	3980MHz to 3981MHz	-28.00	-28.46	-28.07	**-27.66**
	13	3980MHz to 3981MHz	-31.78	-32.46	-32.72	-32.82
	14	3980MHz to 3981MHz	-32.17	-32.05	-31.86	-32.63
	15	3980MHz to 3981MHz	-32.46	-31.02	-33.05	-33.12
	SUM		-19.44	-19.36	-19.64	-19.53
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-6.44	-6.36	-6.64	-6.53

Table 8-20. Band Edge Emission Summary Data (n77_1C_80M)

CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
Low	0	3699MHz to 3700MHz	-30.80	-30.61	-31.34	-30.98
	1	3699MHz to 3700MHz	-29.70	-29.95	-30.02	-30.24
	2	3699MHz to 3700MHz	-31.38	-30.20	-30.98	-31.37
	3	3699MHz to 3700MHz	-30.28	-30.36	-29.99	-29.97
	4	3699MHz to 3700MHz	-29.50	-28.64	-29.82	-29.40
	5	3699MHz to 3700MHz	-30.91	-31.13	-30.20	-30.34
	6	3699MHz to 3700MHz	-29.88	-29.85	-30.37	-29.96
	7	3699MHz to 3700MHz	-30.50	-30.70	-29.98	-30.37
	8	3699MHz to 3700MHz	-30.59	-29.93	-30.70	-31.05
	9	3699MHz to 3700MHz	-30.82	-30.52	-30.41	-30.16
	10	3699MHz to 3700MHz	-30.06	-29.15	-29.95	-29.43
	11	3699MHz to 3700MHz	-30.58	-30.08	-30.52	-29.78
	12	3699MHz to 3700MHz	-28.48	**-28.17**	-28.85	-28.95
	13	3699MHz to 3700MHz	-30.65	-30.55	-30.05	-30.01
	14	3699MHz to 3700MHz	-30.67	-29.24	-30.01	-29.83
	15	3699MHz to 3700MHz	-31.08	-30.82	-30.45	-30.66
	SUM		-18.27	-17.88	-18.15	-18.07
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-5.27	-4.88	-5.15	-5.07

CH	Port	Measured Range (MHz)	Max. Value (dBm)			
			QPSK	16QAM	64QAM	256QAM
High	0	3980MHz to 3981MHz	-30.01	-28.57	-29.93	-30.96
	1	3980MHz to 3981MHz	-30.09	-29.63	-29.95	-29.22
	2	3980MHz to 3981MHz	-30.05	-29.95	-29.98	-29.82
	3	3980MHz to 3981MHz	-30.31	-30.69	-30.02	-30.47
	4	3980MHz to 3981MHz	-28.05	-29.80	-29.84	-29.43
	5	3980MHz to 3981MHz	-29.18	-30.00	-29.07	-29.32
	6	3980MHz to 3981MHz	-31.03	-30.20	-30.30	-30.68
	7	3980MHz to 3981MHz	-28.74	-29.87	-30.38	-29.05
	8	3980MHz to 3981MHz	-29.68	-29.86	-29.89	-29.22
	9	3980MHz to 3981MHz	-31.02	-31.43	-31.57	-31.60
	10	3980MHz to 3981MHz	-30.94	-29.61	-30.84	-30.71
	11	3980MHz to 3981MHz	-30.85	-30.77	-30.89	-30.11
	12	3980MHz to 3981MHz	-27.33	-27.30	**-27.04**	-27.27
	13	3980MHz to 3981MHz	-31.21	-31.15	-31.18	-31.32
	14	3980MHz to 3981MHz	-30.66	-31.02	-30.28	-29.74
	15	3980MHz to 3981MHz	-31.07	-30.92	-31.89	-31.06
	SUM		-17.82	-17.88	-18.00	-17.82
Limit (dBm)			-13	-13	-13	-13
Margin (dB)			-4.82	-4.88	-5.00	-4.82

Table 8-21. Band Edge Emission Summary Data (n77_1C_100M)

CH	Port	Max. Value (dBm)			
		Measured Range (MHz) 3699MHz to 3700MHz		Measured Range (MHz) 3980MHz to 3981MHz	
		QPSK	16QAM	QPSK	16QAM
Mid	0	-30.35	-30.62	-32.50	-32.94
	1	-28.69	-29.64	-31.10	-32.04
	2	-30.12	-30.17	-32.88	-32.10
	3	-29.17	-29.58	-30.97	-31.68
	4	-27.95	-27.00	-30.78	-30.44
	5	-29.43	-29.82	-31.75	-31.87
	6	-29.94	-30.34	-32.25	-32.51
	7	-30.19	-30.07	-31.88	-32.39
	8	-28.97	-29.75	-32.24	-32.26
	9	-29.83	-29.54	-32.39	-32.63
	10	-28.57	**-26.94**	-30.75	-30.33
	11	-28.79	-29.10	-32.44	-32.53
	12	-27.80	-28.71	-31.97	-32.14
	13	-30.15	-29.26	-32.62	-32.94
	14	-29.57	-29.76	**-30.15**	-30.25
	15	-29.57	-29.81	-32.63	-32.80
	SUM	-17.21	-17.21	-19.71	-19.86
Limit (dBm)		-13	-13	-13	-13
Margin (dB)		-4.21	-4.21	-6.71	-6.86

Table 8-22. Band Edge Emission Summary Data (n77_2C_100M+40M)

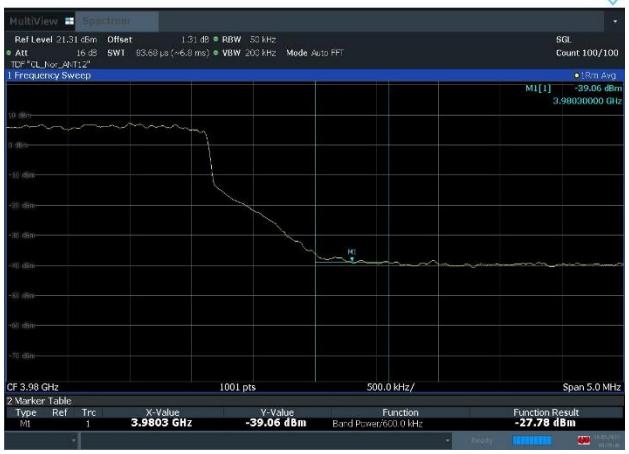
CH	Port	Max. Value (dBm)			
		Measured Range (MHz) 3699MHz to 3700MHz		Measured Range (MHz) 3980MHz to 3981MHz	
		QPSK	16QAM	QPSK	16QAM
Mid	0	-29.79	-29.89	-27.60	-29.94
	1	-29.84	-30.07	-27.02	-30.29
	2	-30.53	-30.21	-30.30	-30.81
	3	-29.86	-29.93	-28.72	-29.88
	4	-28.41	-29.34	-28.57	-30.26
	5	-30.24	-30.17	-28.83	-30.25
	6	-30.00	-29.92	-31.52	-30.52
	7	-30.02	-30.57	-28.29	-30.40
	8	-29.86	-29.18	-29.38	-30.39
	9	-29.96	-30.18	-28.29	-31.12
	10	**-27.73**	-28.05	-26.88	-27.86
	11	-29.45	-30.00	**-26.37**	-29.91
	12	-28.31	-28.96	-27.36	-29.40
	13	-29.30	-29.79	-29.14	-31.12
	14	-29.48	-29.75	-28.98	-29.20
	15	-29.72	-30.27	-30.69	-30.60
	SUM	-17.42	-17.68	-20.68	-18.00
Limit (dBm)		-13	-13	-13	-13
Margin (dB)		-4.42	-4.68	-7.68	-5.00

Table 8-23. Band Edge Emission Summary Data (n77_2C_100M+100M)

Plot 8-37. Band Edge Emission Plot
(n77_1C_40M_64QAM - Low Channel, Port 10)

Plot 8-38. Band Edge Emission Plot
(n77_1C_40M_256QAM - High Channel, Port 12)

Plot 8-39. Band Edge Emission Plot
(n77_1C_60M_16QAM - Low Channel, Port 12)



Plot 8-40. Band Edge Emission Plot
(n77_1C_60M_64QAM - High Channel, Port 12)

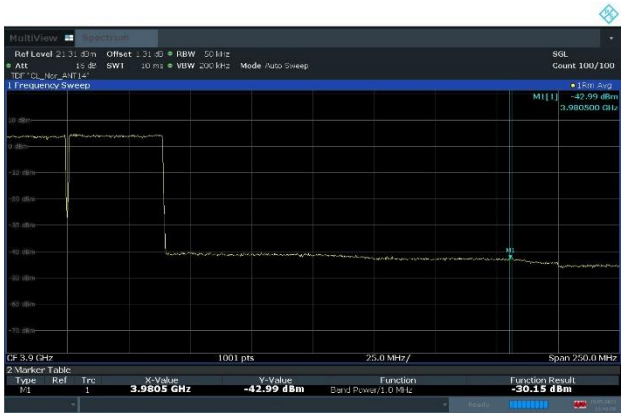
Plot 8-41. Band Edge Emission Plot
(n77_1C_80M_64QAM - Low Channel, Port 4)

Plot 8-42. Band Edge Emission Plot
(n77_1C_80M_256QAM - High Channel, Port 12)

Plot 8-43. Band Edge Emission Plot
(n77_1C_100M_16QAM - Low Channel, Port 12)

Plot 8-44. Band Edge Emission Plot
(n77_1C_100M_64QAM - High Channel, Port 12)

Plot 8-45. Band Edge Emission Plot
(n77_2C_100M+40M_16QAM - Mid Channel_
Low Edge, Port 10)



Plot 8-46. Band Edge Emission Plot
(n77_2C_100M+40M_QPSK - Mid Channel_
High Edge, Port 14)

Plot 8-47. Band Edge Emission Plot
(n77_2C_100M+100M_QPSK - Mid Channel_
Low Edge, Port 10)

Plot 8-48. Band Edge Emission Plot
(n77_2C_100M+100M_QSPK - Mid Channel_
High Edge, Port 11)

8.6 Spurious and Harmonic Emissions at Antenna Terminal

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6

KDB 662911 D01 v02r01 – Section E)3) Out-of-Band and Spurious Emission Measurements

a) Absolute Emission Limits

ii) Measure and sum spectral maxima across the outputs

ANSI C63.26-2015 – Section 5.7

Test Setting

1. Start frequency was set to 9 kHz and stop frequency was set to at least 10 * the fundamental frequency excluding the frequency range of the band edge measurement.
2. RBW: Please see test notes below.
3. VBW ≥ 3 x RBW
4. Detector = RMS
5. Number of sweep points ≥ 2 x Span/RBW
6. Trace mode = trace average
7. Sweep time = auto couple
8. The trace was allowed to stabilize

Limit

§ 27.53 (l)(1)
For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

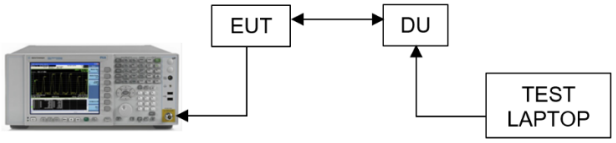


Figure 8-5. Test Instrument & Measurement Setup

Test Notes

1. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

2. All modes of operation were investigated and the worst configuration result plots are reported in each operating frequency band.

3. The spurious emissions per port (dBm/MHz or dBm) is converted to a linear value (mW). A summation of linear powers for all ports gives us the total MIMO Conducted Emissions (mW). We convert this back to logarithmic scale for further emission power calculations.

4. When the spurious emissions performed using the method KDB 971168 D01 v03r01 - Section E) 3) iii) detect with a margin of under 1dB to limit, the integration method was performed using the spectrum analyzer's band power functions according to ANSI C63.26-2015 – Section 5.7 and using the method KDB 971168 D01 v03r01 - Section E) 3) ii). The integration value was set to a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter.

5. The spurious emissions per port (dBm/MHz or dBm) is converted to a linear value (mW). A summation of linear powers for all ports gives us the total MIMO Conducted emissions (mW). We convert this back to logarithmic scale for further output power calculations.

6. For test result, it added 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

7. All transmit signals from different antennas are completely uncorrelated with each other. So the maximum emissions shall be calculated based on the aggregate emission conducted across all antennas.

8. Consider the following factors for MIMO:
   The spurious emissions per each port is measured as dBm/MHz or dBm, the emissions are summed up in linear using the measure-and-sum technique defined in KDB 971168 D01 v03r01 - Section E) 3) ii).

9. Sample Calculation:
   Let us assume the following numbers:
   c) Total MIMO Emission power as 0.029 milliWatts
   d)

Factors		Value	Unit
Summed MIMO Emission power (linear sum)		0.029	mW
Summed MIMO Emission power (dBm)	= 10 * log (0.029) =	-15.35	dBm
Limit		-13	dBm
Margin	= Summed MIMO Emission power (dBm) - Limit	-2.35	dB

10. Narrower RBW parameter is applied according to Section 5.7 of ANSI C63.26-2015 for some measurement ranges due to improving measurement accuracy. RBW Factor calculation as below:
    - RBW Factor = 10*log (0.1/0.001) = 20 dB
    - RBW Factor = 10*log (0.1/0.01) = 10 dB

Frequency range	Basic Limit (dBm/MHz)	References RBW (MHz)	Measurement RBW (MHz)	RBW Factor (dB)	Adjusted limit (dBm)
9 kHz to 150 kHz	-13.00	1	0.001	30	-43.0
150 kHz to 30 MHz			0.01	20	-33.0
30 MHz to 1 GHz			0.1	10	-23.0
1 GHz to 40 GHz			1	0	-13.0
Note: Adjusted limit (dBm/MHz) = Basic limit (dBm/1MHz) - RBW Factor					

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Low	0	-72.74	-55.32	-58.46	-33.83	-28.17	-36.46	-31.99	-43.08	-37.37
	1	-72.44	-55.22	-58.09	-31.17	-26.65	-35.77	-30.64	-43.03	-37.59
	2	-72.97	-55.14	-58.65	-32.18	-27.82	-36.39	-32.38	-42.92	-37.55
	3	-72.31	-55.27	-58.06	-32.82	-27.98	-35.27	-29.81	-42.93	-37.30
	4	-72.38	-55.74	-58.45	-31.82	-26.72	-36.42	-31.73	-43.17	-37.48
	5	-72.76	-55.63	-58.28	-33.26	-27.64	-35.97	-31.21	-43.20	-37.45
	6	-73.09	-55.40	-58.57	-31.89	-26.65	-36.25	-32.55	-42.84	-37.19
	7	-72.69	-54.80	-57.68	-33.24	-28.29	-35.98	-30.47	-42.75	-37.44
	8	-72.52	-55.41	-57.62	-32.40	-26.51	-35.70	-29.71	-43.15	-37.57
	9	-72.30	-55.66	-58.27	-32.98	-26.68	-36.08	-31.20	-42.92	-37.36
	10	-73.41	-56.03	-58.02	-31.67	-26.71	-35.55	-29.77	-43.02	-37.56
	11	-72.94	-55.82	-58.19	-31.95	-26.74	-36.52	-31.61	-42.82	-37.56
	12	-72.24	-55.60	-58.15	-32.43	-25.86	-35.89	-30.22	-43.12	-37.49
	13	-70.27	-56.04	-58.45	-31.02	-27.17	-36.44	-31.74	-42.99	-37.48
	14	-72.15	-55.98	-57.49	-33.67	-26.52	-34.28	-27.54	-43.08	-37.48
	15	-69.95	-55.80	-58.14	-32.34	-27.60	-36.22	-31.25	-43.22	-37.62
Total MIMO Conducted Emissions (dBm/MHz)		-60.62	-43.72	-46.42	-20.72	-15.35	-24.19	-19.02	-31.24	-25.68
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-17.62	-10.72	-23.42	-7.72	-2.35	-11.19	-6.02	-18.24	-12.68

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Mid	0	-73.34	-54.75	-58.55	-35.19	-34.17	-35.61	-31.83	-42.94	-37.53
	1	-73.15	-55.41	-58.15	-35.93	-33.76	-34.83	-30.83	-43.14	-37.39
	2	-73.35	-55.60	-58.59	-34.92	-33.87	-35.71	-32.23	-43.05	-37.59
	3	-73.64	-55.13	-58.00	-35.35	-33.55	-34.87	-29.57	-43.01	-37.47
	4	-72.76	-55.61	-58.43	-34.94	-33.51	-35.41	-31.68	-43.04	-37.35
	5	-72.84	-55.52	-58.47	-36.00	-33.83	-35.57	-31.26	-43.03	-37.59
	6	-72.42	-55.10	-58.63	-36.03	-33.76	-35.75	-32.57	-43.05	-37.39
	7	-72.88	-55.19	-58.26	-36.26	-33.72	-34.79	-30.37	-42.95	-37.16
	8	-73.03	-55.66	-58.18	-35.31	-33.24	-35.22	-30.35	-42.93	-37.66
	9	-72.59	-55.35	-58.34	-35.91	-33.65	-35.97	-30.93	-42.96	-37.55
	10	-73.34	-55.22	-57.85	-34.24	-33.29	-34.50	-29.48	-43.02	-37.43
	11	-72.63	-55.15	-58.32	-35.41	-33.63	-35.47	-31.47	-42.95	-37.46
	12	-73.34	-55.58	-57.86	-36.55	-33.57	-35.37	-30.39	-42.86	-37.54
	13	-70.43	-55.92	-58.16	-35.89	-33.79	-36.08	-31.72	-43.12	-37.51
	14	-73.07	-55.36	-57.53	-36.41	-33.27	-34.11	-27.07	-42.98	-37.27
	15	-70.08	-55.48	-58.36	-36.19	-34.03	-35.48	-31.08	-43.01	-37.27
Total MIMO Conducted Emissions (dBm/MHz)		-61.02	-43.57	-46.50	-23.89	-21.93	-23.57	-18.95	-31.24	-61.02
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-18.02	-10.57	-23.50	-10.89	-8.93	-10.57	-5.95	-18.24	-48.02

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
High	0	-72.64	-55.35	-58.55	-35.28	-33.63	-26.95	-32.06	-43.04	-37.54
	1	-73.16	-55.51	-58.12	-35.04	-32.92	-27.38	-30.85	-43.19	-37.45
	2	-73.29	-55.13	-58.54	-34.91	-33.33	-26.76	-32.40	-43.06	-37.32
	3	-72.85	-54.74	-58.07	-34.79	-33.05	-27.25	-29.82	-43.02	-37.45
	4	-72.77	-55.52	-58.18	-34.19	-32.34	-27.11	-31.35	-43.13	-37.37
	5	-72.49	-55.84	-58.43	-34.54	-32.72	-26.48	-31.27	-42.94	-37.54
	6	-72.94	-55.51	-58.51	-35.37	-33.36	-26.77	-32.31	-43.14	-37.69
	7	-73.05	-55.01	-58.14	-34.26	-32.92	-28.13	-30.73	-42.97	-37.69
	8	-72.40	-55.72	-58.02	-34.77	-32.94	-26.72	-30.12	-43.14	-37.42
	9	-73.61	-55.21	-58.30	-35.15	-33.15	-28.04	-31.23	-43.09	-37.72
	10	-72.41	-55.50	-57.95	-33.23	-32.41	-27.50	-29.70	-43.11	-37.67
	11	-72.22	-55.17	-58.28	-34.26	-32.87	-27.97	-31.73	-42.95	-37.55
	12	**-72.87**	**-55.49**	**-58.06**	**-35.12**	**-33.27**	**-23.12**	**-30.38**	**-43.06**	**-37.56**
	13	-69.95	-55.78	-58.21	-35.03	-33.16	-27.55	-31.72	-43.07	-37.59
	14	-73.38	-55.53	-57.44	-35.04	-32.54	-26.35	-27.35	-43.02	-37.56
	15	-69.55	-55.28	-58.43	-35.29	-33.35	-27.48	-31.17	-42.89	-37.43
Total MIMO Conducted Emissions (dBm/MHz)		-60.83	-43.62	-46.46	-23.09	-21.28	-14.96	-19.06	-31.30	-25.77
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-17.83	-10.62	-23.46	-10.09	-8.28	**-1.96**	-6.06	-18.30	-12.77

Table 8-24. Conducted Emissions Table (n77_1C_40M)

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Low	0	-71.99	-55.55	-58.63	-31.65	-27.30	-35.51	-32.13	-43.02	-37.54
	1	-73.08	-55.64	-58.07	-31.32	-26.25	-34.60	-30.10	-43.08	-37.36
	2	-73.45	-56.15	-58.39	-32.00	-27.71	-35.84	-32.28	-43.06	-37.56
	3	-73.66	-55.93	-57.70	-31.23	-27.28	-34.93	-29.88	-43.04	-37.36
	4	**-72.39**	**-56.31**	**-58.33**	**-29.94**	**-25.28**	**-34.25**	**-31.58**	**-43.05**	**-37.73**
	5	-73.00	-56.08	-58.40	-31.56	-27.38	-35.46	-31.40	-43.13	-37.50
	6	-72.84	-56.80	-58.70	-30.40	-26.50	-35.92	-32.50	-43.02	-37.54
	7	-72.75	-56.09	-57.88	-32.07	-27.54	-35.78	-30.41	-42.95	-37.40
	8	-69.20	-55.90	-57.93	-30.41	-26.29	-35.21	-30.36	-42.99	-37.56
	9	-73.20	-56.09	-58.28	-30.66	-25.70	-35.84	-31.44	-43.13	-37.49
	10	-72.58	-55.77	-57.88	-27.94	-25.67	-34.37	-29.84	-43.08	-37.68
	11	-72.67	-56.11	-58.20	-30.99	-26.56	-35.96	-31.66	-43.03	-37.37
	12	-72.78	-55.97	-57.90	-29.11	-25.57	-35.47	-30.38	-42.80	-37.45
	13	-73.07	-56.18	-58.18	-29.78	-26.24	-36.42	-31.57	-42.88	-37.60
	14	-73.22	-56.19	-57.56	-30.62	-26.31	-33.67	-27.48	-43.09	-37.25
	15	-70.76	-55.45	-58.22	-30.82	-27.30	-36.23	-31.33	-43.12	-37.34
Total MIMO Conducted Emissions (dBm/MHz)		-60.71	-44.26	-46.41	-19.05	-14.79	-23.54	-19.05	-31.26	-25.72
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-17.71	-11.26	-23.41	-6.05	**-1.79**	-10.54	-6.05	-18.26	-12.72

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Mid	0	-71.44	-55.97	-58.66	-35.50	-33.53	-34.76	-32.08	-42.85	-37.40
	1	-71.87	-56.21	-58.16	-34.97	-32.80	-33.79	-30.55	-43.01	-37.43
	2	-71.99	-55.59	-58.72	-35.57	-33.44	-34.99	-32.27	-43.07	-37.52
	3	-71.74	-56.41	-57.98	-34.76	-33.20	-33.92	-29.23	-42.82	-37.31
	4	-71.73	-56.33	-58.42	-34.22	-32.49	-34.08	-31.74	-42.92	-37.46
	5	-71.78	-55.56	-58.28	-35.00	-32.88	-34.93	-31.14	-42.95	-37.64
	6	-71.53	-56.06	-58.62	-34.52	-32.75	-35.19	-32.48	-42.96	-37.49
	7	-71.35	-55.59	-58.18	-35.95	-33.40	-34.09	-30.70	-43.15	-37.42
	8	-69.16	-55.86	-57.83	-35.71	-33.38	-34.34	-30.37	-42.97	-37.65
	9	-71.59	-56.19	-58.41	-35.90	-33.44	-34.89	-31.21	-43.18	-37.39
	10	-71.87	-55.92	-57.91	-35.04	-32.28	-33.59	-29.56	-43.17	-37.54
	11	-71.61	-55.95	-58.35	-35.42	-33.03	-34.34	-31.55	-43.10	-37.52
	12	-71.40	-56.03	-58.03	-34.99	-32.82	-34.22	-30.37	-43.07	-37.65
	13	-71.62	-56.01	-58.30	-35.27	-33.34	-34.90	-31.60	-42.94	-37.62
	14	-71.71	-55.98	-57.44	-35.21	-32.42	-33.02	-27.31	-43.10	-37.11
	15	-70.61	-56.74	-58.14	-35.49	-33.78	-34.81	-31.31	-42.97	-37.51
Total MIMO Conducted Emissions (dBm/MHz)		-59.65	-44.21	-46.49	-23.45	-21.32	-22.62	-18.99	-31.23	-25.70
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-16.65	-11.21	-23.49	-10.45	-8.32	-9.62	-5.99	-18.23	-12.70

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
High	0	-72.42	-55.51	-58.58	-35.93	-33.44	-27.00	-32.27	-42.96	-37.31
	1	-72.58	-56.18	-58.10	-35.40	-33.50	-26.87	-30.40	-43.03	-37.61
	2	-73.23	-55.94	-58.45	-35.49	-33.45	-26.84	-32.32	-42.94	-37.51
	3	-73.58	-56.48	-57.81	-34.90	-33.04	-26.80	-29.41	-43.14	-37.47
	4	-72.66	-56.00	-58.55	-33.85	-32.45	-27.02	-31.85	-43.03	-37.52
	5	-73.82	-55.77	-58.30	-35.05	-32.84	-26.59	-31.10	-43.00	-37.43
	6	-73.78	-55.86	-58.59	-35.43	-33.31	-26.76	-32.60	-42.92	-37.33
	7	-73.33	-55.75	-58.12	-34.76	-32.84	-27.66	-30.61	-42.96	-37.48
	8	-69.41	-56.16	-58.07	-34.95	-33.29	-25.91	-30.26	-43.07	-37.44
	9	-73.52	-55.83	-58.34	-35.46	-33.26	-28.16	-31.49	-43.11	-37.59
	10	-72.81	-55.58	-57.86	-34.55	-32.66	-28.62	-29.53	-43.00	-37.57
	11	-73.36	-55.54	-58.42	-34.73	-32.94	-28.15	-31.82	-43.04	-37.39
	12	-73.41	-55.96	-58.19	-35.48	-33.36	-23.90	-30.45	-43.04	-37.43
	13	-73.49	-55.51	-58.44	-35.00	-33.36	-28.06	-31.32	-43.12	-37.46
	14	-72.96	-56.02	-57.48	-35.56	-32.76	-27.47	-27.00	-42.96	-37.12
	15	-70.35	-56.13	-58.16	-35.65	-33.62	-28.48	-31.30	-43.14	-37.21
Total MIMO Conducted Emissions (dBm/MHz)		-61.02	-44.10	-46.50	-23.40	-21.38	-15.05	-18.99	-31.26	-25.66
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-18.02	-11.10	-23.50	-10.40	-8.38	-2.05	-5.99	-18.26	-12.66

Table 8-25. Conducted Emissions Table (n77_1C_60M)

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Low	0	-72.93	-55.78	-58.67	-31.91	-29.50	-34.66	-32.27	-42.78	-37.48
	1	-74.26	-55.91	-57.88	-30.33	-27.86	-33.42	-30.68	-43.11	-37.44
	2	-72.66	-55.81	-58.56	-31.47	-29.38	-35.11	-31.98	-42.99	-37.50
	3	-73.53	-55.67	-58.16	-31.48	-28.71	-33.90	-29.24	-43.02	-37.58
	4	-73.83	-56.36	-58.53	-28.86	-26.37	-31.92	-31.66	-42.90	-37.41
	5	-74.14	-56.20	-58.30	-32.01	-29.32	-34.21	-31.05	-42.89	-37.37
	6	-73.82	-56.12	-58.55	-31.04	-28.73	-35.18	-32.34	-42.89	-37.63
	7	-73.72	-55.84	-58.11	-32.39	-29.43	-35.54	-30.65	-43.06	-37.58
	8	-69.83	-55.78	-58.02	-30.95	-28.72	-34.60	-30.31	-43.15	-37.48
	9	-74.12	-56.63	-58.28	-30.30	-28.81	-34.95	-31.35	-42.80	-37.57
	10	-74.23	-55.65	-57.87	-29.55	-27.76	-33.55	-29.58	-43.00	-37.46
	11	-73.35	-56.27	-58.29	-29.64	-28.48	-34.34	-31.67	-43.04	-37.64
	12	-73.66	-56.19	-58.13	-27.75	-26.09	-34.73	-30.48	-43.20	-37.54
	13	-73.81	-56.41	-58.46	-29.99	-28.66	-35.60	-31.58	-43.09	-37.52
	14	-73.37	-56.16	-57.59	-31.74	-27.74	-32.91	-27.46	-43.08	-37.46
	15	-71.12	-56.17	-57.97	-30.73	-28.99	-35.41	-31.33	-43.14	-37.12
Total MIMO Conducted Emissions (dBm/MHz)		-61.42	-44.29	-46.51	-18.82	-16.59	-22.50	-19.03	-31.22	-25.75
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-18.42	-11.29	-23.51	-5.82	-3.59	-9.50	-6.03	-18.22	-12.75

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Mid	0	-72.45	-56.51	-58.32	-34.12	-32.99	-33.63	-32.22	-43.08	-37.48
	1	-75.08	-55.20	-58.27	-34.49	-31.88	-32.76	-30.73	-43.03	-37.43
	2	-74.86	-55.72	-58.66	-34.31	-32.32	-34.39	-32.44	-43.00	-37.54
	3	-73.82	-56.49	-57.91	-32.20	-29.25	-32.31	-29.82	-43.01	-37.51
	4	-73.08	-56.00	-58.51	-31.98	-29.65	-30.55	-31.58	-42.95	-37.48
	5	-73.64	-56.33	-58.20	-34.36	-32.24	-34.18	-31.16	-42.79	-37.67
	6	-74.28	-56.18	-58.68	-34.27	-32.56	-34.87	-32.29	-43.08	-37.59
	7	-74.51	-56.33	-58.27	-35.53	-33.03	-33.87	-30.55	-42.99	-37.30
	8	-70.15	-56.15	-58.03	-34.92	-33.05	-33.88	-30.26	-42.83	-37.52
	9	-73.46	-55.72	-58.36	-34.95	-32.75	-34.60	-31.04	-43.12	-37.51
	10	-74.41	-55.84	-57.81	-34.09	-30.31	-33.51	-29.60	-43.12	-37.59
	11	-73.49	-56.09	-58.05	-33.94	-32.07	-33.95	-31.63	-43.15	-37.34
	12	-72.67	-56.22	-58.21	-34.95	-32.48	-33.49	-30.10	-42.95	-37.46
	13	-73.68	-57.12	-58.06	-34.18	-32.07	-33.59	-31.64	-43.12	-37.56
	14	-73.10	-55.71	-57.38	-34.69	-32.26	-32.64	-27.16	-43.02	-37.51
	15	-70.83	-56.17	-58.39	-35.20	-33.25	-34.83	-31.08	-43.11	-37.39
Total MIMO Conducted Emissions (dBm/MHz)		-61.45	-44.37	-46.44	-22.33	-20.18	-21.59	-19.00	-31.25	-25.73
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-18.45	-11.37	-23.44	-9.33	-7.18	-8.59	-6.00	-18.25	-12.73

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
High	0	-71.32	-55.89	-58.63	-35.23	-33.41	-28.86	-32.14	-43.07	-37.15
	1	-73.14	-56.30	-58.01	-35.36	-33.21	-27.92	-30.83	-42.87	-37.45
	2	-74.55	-56.33	-58.30	-33.27	-31.68	-28.45	-32.24	-43.02	-37.60
	3	-74.26	-56.47	-58.08	-34.51	-32.68	-28.59	-29.45	-42.95	-37.49
	4	-73.70	-55.70	-58.57	-32.90	-31.25	-28.43	-31.84	-43.03	-37.55
	5	-73.47	-56.29	-58.07	-33.19	-31.87	-27.51	-31.02	-43.06	-37.53
	6	-72.95	-55.87	-58.65	-34.00	-31.84	-28.74	-32.33	-42.98	-37.57
	7	-73.23	-55.60	-58.07	-33.31	-32.01	-28.60	-30.63	-42.86	-37.48
	8	-69.05	-56.15	-58.24	-34.19	-32.60	-27.87	-30.15	-43.07	-37.44
	9	-73.30	-56.27	-58.34	-33.39	-31.78	-30.00	-31.13	-43.02	-37.48
	10	-73.74	-55.83	-57.89	-34.45	-32.32	-29.45	-29.76	-42.87	-37.44
	11	-73.34	-55.67	-58.36	-34.78	-32.63	-29.57	-31.82	-43.07	-37.51
	12	**-73.23**	**-56.04**	**-58.25**	**-34.87**	**-32.57**	**-24.09**	**-30.32**	**-43.09**	**-37.42**
	13	-73.17	-56.38	-58.22	-34.21	-32.43	-29.81	-31.87	-43.05	-37.31
	14	-72.82	-56.07	-57.59	-35.24	-32.58	-27.84	-27.54	-43.02	-37.42
	15	-70.30	-55.79	-58.40	-34.23	-31.61	-29.25	-31.09	-43.02	-37.40
Total MIMO Conducted Emissions (dBm/MHz)		-60.86	-44.29	-46.50	-22.40	-20.59	-16.33	-19.06	-31.25	-25.67
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-17.86	-11.29	-23.50	-9.40	-7.59	-3.33	-6.06	-18.25	-12.67

Table 8-26. Conducted Emissions Table (n77_1C_80M)

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Low	0	-72.56	-55.34	-58.52	-32.09	-28.13	-33.54	-32.24	-43.09	-37.48
	1	-73.09	-55.14	-58.05	-31.49	-27.04	-33.16	-30.83	-43.00	-37.34
	2	-73.05	-55.23	-58.58	-31.36	-27.69	-34.50	-32.37	-42.74	-37.37
	3	-72.57	-55.77	-58.02	-31.19	-27.32	-32.92	-29.59	-43.05	-37.59
	4	-72.28	-55.60	-58.25	-30.39	-26.70	-32.75	-31.68	-43.03	-37.57
	5	-72.14	-54.98	-58.08	-31.48	-27.42	-33.73	-31.02	-42.94	-37.62
	6	-73.04	-55.50	-58.56	-31.71	-27.68	-34.39	-32.51	-43.06	-37.67
	7	-71.60	-55.34	-57.88	-31.95	-27.54	-34.89	-30.66	-43.01	-37.48
	8	-70.32	-55.35	-58.06	-31.20	-26.82	-34.28	-30.17	-42.97	-37.40
	9	-72.22	-55.58	-58.25	-31.37	-27.77	-34.02	-31.29	-43.08	-37.39
	10	-71.77	-55.00	-57.64	-29.91	-26.90	-31.70	-29.88	-42.98	-37.35
	11	-72.49	-55.09	-58.37	-29.72	-27.02	-34.11	-31.54	-43.07	-37.35
	12	**-73.60**	**-55.25**	**-58.11**	**-29.69**	**-26.09**	**-34.42**	**-30.31**	**-43.08**	**-37.41**
	13	-72.68	-55.60	-58.37	-30.24	-27.33	-34.99	-31.79	-43.01	-37.54
	14	-73.05	-55.60	-57.47	-31.17	-26.96	-32.39	-27.44	-42.98	-37.50
	15	-70.91	-55.52	-58.15	-30.65	-28.21	-34.12	-31.20	-43.05	-37.33
Total MIMO Conducted Emissions (dBm/MHz)		-60.65	-43.61	-46.44	-19.31	-15.52	-22.01	-19.07	-31.25	-25.72
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-17.65	-10.61	-23.44	-6.31	**-2.52**	-9.01	-6.07	-18.25	-12.72

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Mid	0	-72.76	-55.69	-58.60	-33.68	-30.57	-31.50	-32.05	-43.13	-37.22
	1	-71.69	-55.66	-58.21	-33.41	-31.32	-33.31	-30.34	-42.96	-37.25
	2	-72.31	-55.70	-58.31	-33.83	-31.52	-34.14	-32.33	-43.05	-37.50
	3	-71.74	-55.74	-58.10	-33.66	-31.44	-32.97	-29.99	-43.06	-37.53
	4	-72.93	-55.97	-58.61	-33.45	-31.22	-33.24	-31.63	-43.01	-37.36
	5	-72.41	-55.62	-58.17	-34.53	-31.14	-33.00	-30.86	-42.90	-37.50
	6	-72.64	-55.08	-58.49	-33.99	-31.89	-33.90	-32.40	-43.03	-37.50
	7	-72.65	-55.13	-58.21	-34.06	-32.08	-33.35	-30.27	-42.84	-37.61
	8	-69.52	-55.64	-58.07	-34.71	-31.72	-33.37	-30.18	-43.14	-37.41
	9	-72.18	-55.42	-58.04	-33.91	-31.71	-33.30	-30.97	-43.10	-37.53
	10	-72.01	-55.84	-57.86	-33.36	-30.92	-32.65	-29.84	-43.14	-37.68
	11	-72.49	-55.95	-58.31	-33.10	-30.73	-33.11	-31.61	-43.07	-37.50
	12	-72.37	-55.95	-58.24	-34.61	-31.73	-33.16	-30.29	-43.06	-37.35
	13	-72.35	-55.85	-58.56	-34.53	-32.07	-34.72	-31.53	-43.11	-37.53
	14	-72.31	-56.14	-57.54	-33.77	-31.27	-32.09	-27.54	-43.03	-37.49
	15	-70.89	-55.86	-58.32	-34.52	-31.72	-33.57	-31.47	-42.78	-37.51
Total MIMO Conducted Emissions (dBm/MHz)		-60.36	-43.91	-46.50	-22.14	-19.61	-21.27	-18.99	-31.28	-25.67
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-17.36	-10.91	-23.50	-9.14	-6.61	-8.27	-5.99	-18.28	-12.67

CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
High	0	-69.00	-55.17	-58.59	-34.32	-33.05	-28.11	-32.04	-43.13	-37.57
	1	-67.80	-55.49	-57.86	-35.10	-33.05	-27.35	-30.60	-42.83	-37.45
	2	-67.82	-55.97	-58.25	-33.85	-32.72	-27.66	-32.20	-42.85	-37.28
	3	-66.44	-55.40	-57.91	-34.04	-32.17	-27.70	-29.79	-43.01	-37.26
	4	-67.02	-55.74	-58.18	-33.69	-32.33	-27.48	-31.64	-42.96	-37.34
	5	-69.43	-55.73	-58.19	-34.21	-32.63	-27.54	-31.30	-42.69	-37.15
	6	-66.65	-55.97	-58.58	-33.79	-31.24	-28.06	-32.53	-43.21	-37.33
	7	-66.79	-55.24	-58.23	-33.56	-31.62	-26.51	-30.76	-43.06	-37.38
	8	-67.23	-56.17	-57.90	-34.64	-32.85	-27.71	-30.27	-42.92	-37.55
	9	-65.05	-56.12	-58.19	-34.56	-33.23	-28.44	-31.19	-43.15	-37.44
	10	-66.93	-55.75	-57.81	-33.65	-31.89	-28.08	-29.81	-42.99	-37.56
	11	-66.06	-55.28	-58.47	-33.89	-32.88	-28.16	-31.52	-42.88	-37.59
	12	-66.79	-56.27	-58.08	-35.07	-32.90	-24.42	-30.56	-43.09	-37.42
	13	-66.51	-55.57	-58.27	-34.42	-32.44	-28.94	-31.56	-43.23	-37.58
	14	-65.47	-55.16	-57.41	-35.03	-32.31	-27.88	-27.32	-43.12	-37.52
	15	-65.86	-55.75	-58.34	-29.92	-28.91	-28.67	-31.37	-43.11	-37.56
Total MIMO Conducted Emissions (dBm/MHz)		-55.21	-43.85	-46.41	-22.51	-20.77	-15.71	-19.05	-31.25	-25.67
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-12.21	-10.85	-23.41	-9.51	-7.77	-2.71	-6.05	-18.25	-12.67

Table 8-27. Conducted Emissions Table (n77_1C_100M)

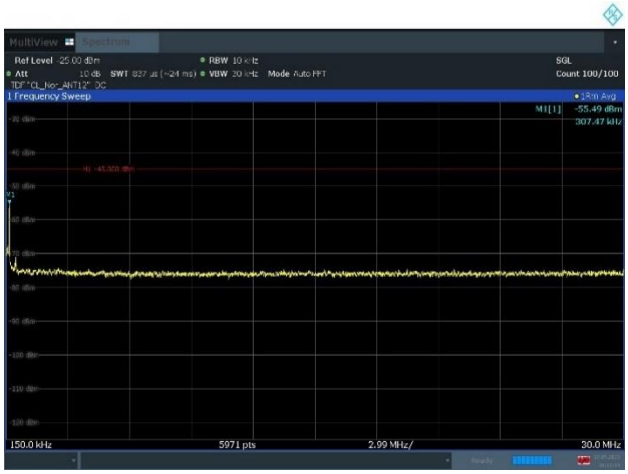
CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Mid	0	-72.19	-55.63	-58.55	-30.43	-28.65	-34.49	-32.04	-43.03	-37.58
	1	-73.47	-55.66	-55.15	-29.24	-27.02	-32.92	-30.70	-43.03	-37.56
	2	-72.77	-56.15	-58.60	-29.86	-28.46	-32.98	-32.55	-43.07	-37.43
	3	-73.58	-55.94	-56.70	-29.72	-27.67	-33.19	-29.79	-43.05	-37.58
	4	-73.07	-56.27	-58.49	-27.95	-27.02	-31.40	-31.60	-43.10	-37.66
	5	**-73.64**	**-55.79**	**-58.30**	**-29.59**	**-26.76**	**-33.30**	**-31.15**	**-43.03**	**-37.35**
	6	-72.85	-56.40	-58.30	-29.87	-27.73	-33.96	-32.63	-43.11	-37.70
	7	-72.61	-56.00	-58.20	-29.61	-27.96	-34.33	-30.51	-43.12	-37.70
	8	-68.79	-55.62	-58.02	-30.02	-27.71	-34.30	-30.21	-43.10	-37.33
	9	-73.22	-56.01	-58.25	-29.15	-28.01	-34.18	-31.10	-43.14	-37.41
	10	-72.54	-55.83	-57.85	-27.70	-27.24	-31.86	-29.75	-43.00	-37.50
	11	-72.91	-56.50	-58.25	-29.07	-27.46	-34.34	-31.58	-42.99	-37.53
	12	-72.67	-55.90	-58.08	-28.12	-26.86	-33.74	-30.24	-43.05	-37.44
	13	-73.25	-56.07	-58.39	-27.88	-26.89	-34.45	-31.78	-43.11	-37.33
	14	-72.36	-56.27	-57.30	-30.02	-27.30	-32.61	-27.40	-43.02	-37.56
	15	-70.48	-55.70	-57.99	-29.39	-27.90	-34.45	-31.16	-43.06	-37.56
Total MIMO Conducted Emissions (dBm/MHz)		-60.69	-44.22	-46.07	-17.56	-15.81	-21.79	-19.05	-31.30	-25.75
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-17.69	-11.22	-23.07	-4.56	**-2.81**	-8.79	-6.05	-18.30	-12.75

Table 8-28. Conducted Emissions Table (n77_2C_100M+40M)

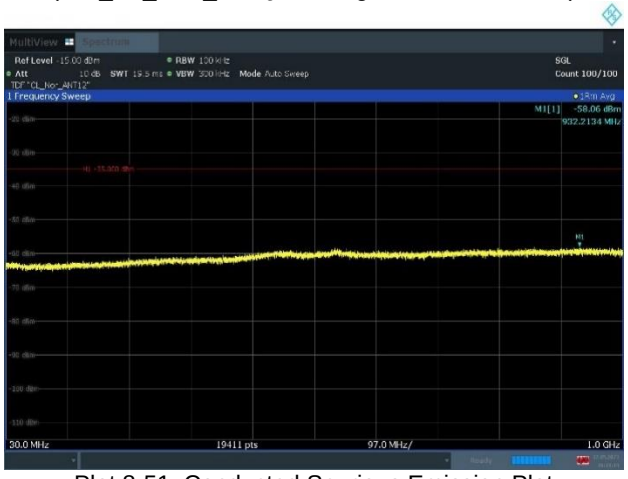
CH	Port	Level (dBm/MHz)								
		9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 to 3.690 GHz	3.690 to 3.699 GHz	3.981 to 3.990 GHz	3.990 to 6 GHz	6 to 18 GHz	18 to 40 GHz
Mid	0	-72.32	-55.29	-58.58	-29.12	-27.64	-32.39	-32.02	-43.21	-37.50
	1	-73.49	-55.44	-57.93	-29.81	-26.99	-31.64	-30.64	-42.98	-37.31
	2	-73.00	-55.39	-58.30	-29.45	-27.61	-32.12	-32.54	-43.09	-37.44
	3	-72.97	-55.63	-57.99	-29.38	-27.97	-32.30	-29.83	-43.04	-37.69
	4	**-73.20**	**-55.75**	**-58.41**	**-29.02**	**-26.56**	**-30.89**	**-31.53**	**-43.06**	**-37.56**
	5	-73.25	-55.56	-57.95	-28.77	-27.36	-31.02	-31.39	-43.04	-37.52
	6	-75.24	-55.81	-58.64	-29.42	-27.44	-33.70	-32.06	-43.01	-37.64
	7	-73.56	-55.50	-57.93	-30.40	-28.37	-31.04	-30.52	-42.95	-37.58
	8	-69.88	-56.21	-58.04	-28.73	-27.81	-32.54	-30.08	-42.90	-37.52
	9	-72.78	-56.23	-58.11	-29.09	-27.76	-30.66	-31.33	-43.12	-37.60
	10	-73.57	-55.66	-57.82	-27.36	-26.71	-31.26	-30.06	-43.09	-37.31
	11	-73.25	-55.94	-58.37	-29.25	-27.51	-31.76	-31.66	-43.01	-37.51
	12	-72.87	-55.89	-58.13	-28.78	-26.97	-29.38	-30.64	-43.18	-37.56
	13	-72.62	-56.28	-58.38	-29.42	-27.27	-31.07	-31.50	-43.03	-37.63
	14	-73.15	-55.67	-57.63	-29.00	-27.06	-30.85	-27.63	-43.13	-37.39
	15	-70.77	-55.93	-58.27	-30.55	-28.29	-33.55	-31.09	-43.20	-37.71
Total MIMO Conducted Emissions (dBm/MHz)		-61.03	-43.95	-46.43	-17.47	-15.68	-25.17	-19.08	-31.30	-25.77
Limit (dBm/MHz)		-43.00	-33.00	-23.00	-13.00	-13.00	-13.00	-13.00	-13.00	-13.00
Margin (dBm/MHz)		-18.03	-10.95	-23.43	-4.47	**-2.68**	-12.17	-6.08	-18.30	-12.77

Table 8-29. Conducted Emissions Table (n77_2C_100M+100M)

Plot 8-49. Conducted Spurious Emission Plot
(9KHz to 150KHz)
(n77_1C_40M_256QAM - High Channel, Port 12)

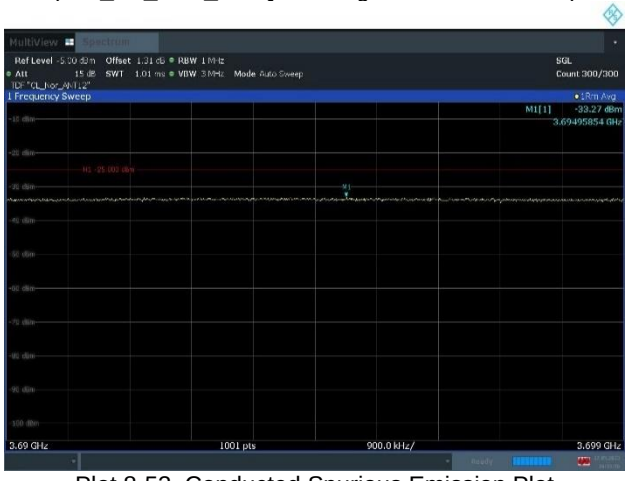


Plot 8-50. Conducted Spurious Emission Plot
(150KHz to 30MHz)
(n77_1C_40M_256QAM - High Channel, Port 12)

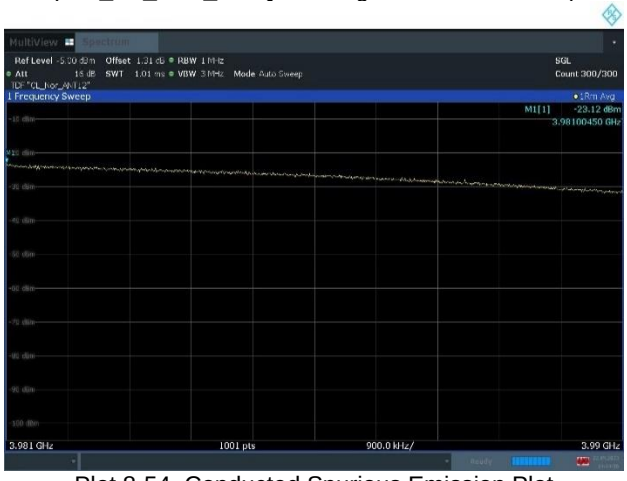


Plot 8-51. Conducted Spurious Emission Plot
(30MHz to 1000MHz)
(n77_1C_40M_256QAM - High Channel, Port 12)

Plot 8-52. Conducted Spurious Emission Plot
(1000MHz to 3690MHz)
(n77_1C_40M_256QAM - High Channel, Port 12)

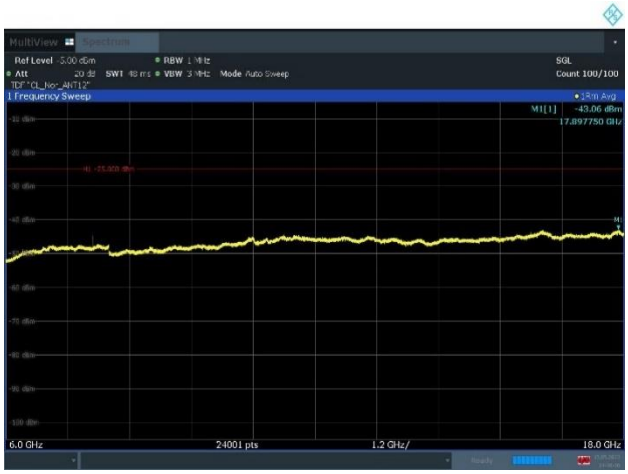


Plot 8-53. Conducted Spurious Emission Plot
(3690MHz to 3699MHz)
(n77_1C_40M_256QAM - High Channel, Port 12)



Plot 8-54. Conducted Spurious Emission Plot
(3981MHz to 3990GHz)
(n77_1C_40M_256QAM - High Channel, Port 12)

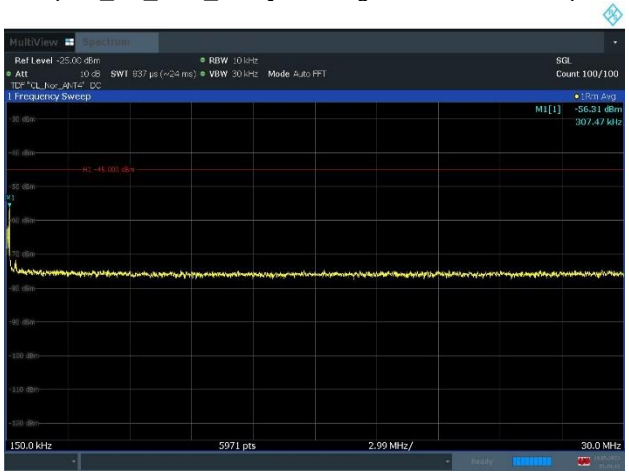
Plot 8-55. Conducted Spurious Emission Plot
(3990MHz to 6GHz)
(n77_1C_40M_256QAM - High Channel, Port 12)



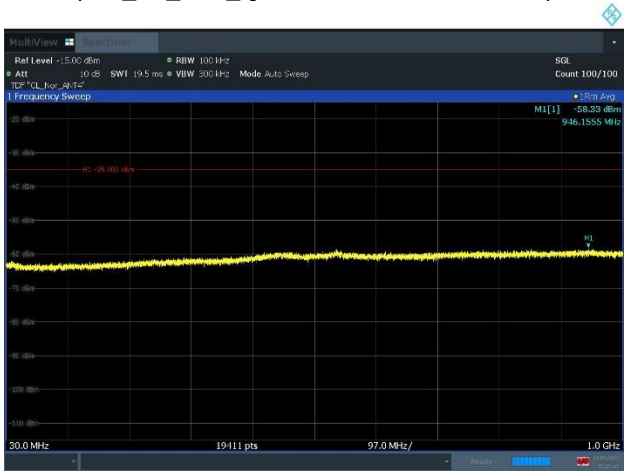
Plot 8-56. Conducted Spurious Emission Plot
(6GHz to 18GHz)
(n77_1C_40M_256QAM - High Channel, Port 12)

Plot 8-57. Conducted Spurious Emission Plot
(18GHz to 40GHz)
(n77_1C_40M_256QAM - High Channel, Port 12)

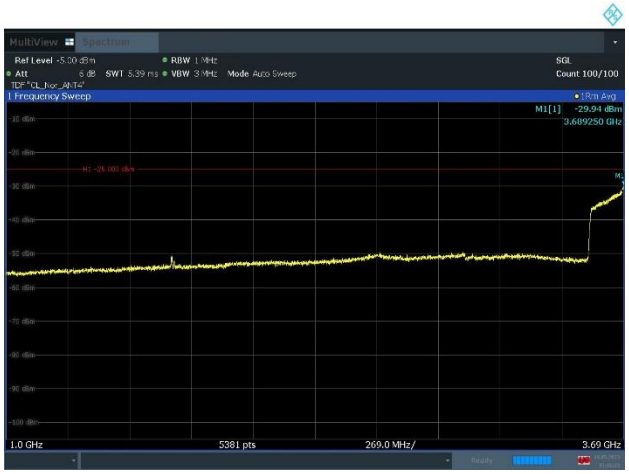
Plot 8-58. Conducted Spurious Emission Plot
(9KHz to 150KHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)



Plot 8-59. Conducted Spurious Emission Plot
(150KHz to 30MHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)



Plot 8-60. Conducted Spurious Emission Plot
(30MHz to 1000MHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)



Plot 8-61. Conducted Spurious Emission Plot
(1000MHz to 3690MHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)

Plot 8-62. Conducted Spurious Emission Plot
(3690MHz to 3699MHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)

Plot 8-63. Conducted Spurious Emission Plot
(3981MHz to 3990GHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)

Plot 8-64. Conducted Spurious Emission Plot
(3990MHz to 6GHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)

Plot 8-65. Conducted Spurious Emission Plot
(6GHz to 18GHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)

Plot 8-66. Conducted Spurious Emission Plot
(18GHz to 40GHz)
(n77_1C_60M_QPSK - Low Channel, Port 4)