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Radio Test report – Radio 2212 B2/25

Type of assessment:

Class 2 Permissive Change

Project number:

425703-1TRFWL-R1

Applicant:

Ericsson Canada Inc.

Product:	Model:	Part number:
Radio 2212	Radio 2212 B2/25	KRC 161 688/1, KRC 161 688/3
FCC ID:	**ISED Reg. Number**	**HVIN:**
TA8FKRC161688	287AB-FS161688	FS1616881, FS1616883

Requirements/Summary:

Standard	Environmental phenomenon	Compliance
FCC 47 CFR Part 24, Subpart E	Broadband Personal Communications Services (PCS)	Yes
RSS-133 Issue 6 A1, Jan 18, 2018	2 GHz Personal Communications Services	Yes

Date of issue: April 21, 2021

Andrey Adelberg, Senior EMC/Wireless Specialist
Tested by

Signature

David Duchesne, Senior EMC/Wireless Specialist
Reviewed by

Signature

Two test locations

Company name	Nemko Canada Inc.	
Address	303 River Road	349 Terry Fox
City	Ottawa	Ottawa
Province	Ontario	Ontario
Postal code	K1V 1H2	K2K 2V6
Country	Canada	Canada
Telephone	+1 613 737 9680	+1 613 963 8000
Facsimile	+1 613 737 9691	
Toll free	+1 800 563 6336	
Website	www.nemko.com	
Site number	FCC test site registration number: CA2040, IC: 2040A-4 (3 m semi anechoic chamber)	

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.
This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this reAnt Are within Nemko Canada's ISO/IEC 17025 accreditation.

Copyright notification

Table of contents

Section 1. Report summary

1.1 Applicant and manufacturer

Company name	Ericsson Canada Inc.
Address	349 Terry Fox Drive, Ottawa, ON, Canada, K2K 2V6

1.2 Test specifications

FCC 47 CFR Part 2	Frequency Allocations and Radio Treaty Maters; General Rules and Regulations
FCC 47 CFR Part 24, Subpart E	Broadband Personal Communications Services (PCS)
RSS-133 Issue 6 A1, Jan. 18, 2018	2 GHz Personal Communications Services
SRSP-510, Issue 5, February 2009	Technical Requirements for Personal Communications Services (PCS) in the Bands 1850–1915 MHz and 1930–1995 MHz
RSS-Gen, Issue 5, April 2018	General Requirements for Compliance of Radio Apparatus

1.3 Test method

ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
KDB 662911 D01	Multiple Transmitter Output v02r01
KDB 662911 D02	MIMO with Cross-Polarized Antennas v01

1.4 Statement of compliance

In the configuration tested, the EUT was found compliant. Testing was completed against customer test plan. Results obtained indicate that the product under test complies in full with the requirements tested.

This CIIPC report (425703-1TRFWL-R1) applies to the Radio 2212 B2/25 with model numbers KRC 161 688/1, KRC 161 688/3. See “Summary of test results” for full details.

EUT Configuration(s) SRO/MRO:
SRO: CDMA
MRO: C+L, C+NR, C+L+NR
(LTE includes NB-IoT (IB, GB)
MRO C+L 1.4MHz and 3.0MHz are not supported

CDMA SC SRO RF Power/Port: 43 dBm (20W)
MRO RF Power/Port: 49 dBm (80W)

Notes:
CDMA Carriers: 1/Port
MRO Carriers: 6/Port
Scope: CIIPC to add CDMA SRO/MRO to the existing Radio Approvals SRO/MRO for G, W, L, NR, NB-IoT SA
LTE BW: 1.4, 3, 5, 10, 15, 20MHz
NR BW: 5, 10, 15, 20MHz
(LTE includes NB-IoT (IB, GB); IB Support: LTE 5, 10, 15, 20MHz, GB Support: 10, 15, 20MHz)
Supported: Diversity, MIMO, CA, ESS

1.5 Test report revision history

Table 1.5-1: *Test report revision history*

Revision #	Date of issue	Details of changes made to test report
TRF	April 21, 2021	Original report issued

Section 2. Summary of test results

2.1 Testing location

Test location (s)	Ottawa

2.2 Testing period

Test start date	February 8, 2021	Test end date	March 31, 2021

2.3 Sample information

Receipt date	February 8, 2021	Nemko sample ID number	1

2.4 FCC Parts 2 and 24 test results

Table 2.4-1: *FCC results summary*

Part	Test description	Verdict
§24.229	Frequencies	Pass[1]
§24.232(a)(2)	Power and antenna height limits for base stations with BW greater than 1 MHz	Pass
§24.238(a)	Emission limitations for Broadband PCS equipment – out of band emissions (conducted and radiated)	Pass
§2.1049	Occupied bandwidth	Pass

Notes: Only tests requested by the client have been performed

[1]EUT transmits within 1930–1995 MHz frequency range

2.5 RSS-133 test results

Table 2.5-1: *ISED results summary*

Part	Test description	Verdict
RSS-133, 6.1	Frequency Plan	Pass[1]
RSS-133, 6.2	Types of Modulation	Pass[2]
RSS-133, 6.4	Transmitter Output Power and Equivalent Isotropically Radiated Power	Pass
RSS-133, 6.5	Transmitter Unwanted Emissions (conducted and radiated)	Pass
RSS-Gen, 6.7	Occupied bandwidth	Pass
RSS-Gen, 7.4	Receiver conducted emissions limits	Pass

Notes: Only tests requested by the client have been performed

[1]EUT transmits within 1930–1995 MHz frequency range

[2]EUT employs digital modulation (QPSK to 256-QAM)

Section 3. Equipment under test (EUT) details

3.1 EUT information

Product name	Radio 2212 B2/25		
Model	Radio 2212		
Part number	KRC 161 688/1, KRC 161 688/3		
Revision	R5K		
Serial number	CF88307953		
Antenna ports	2 TX/RX Ports		
RF BW / IBW	B2/25 IBW DL: 65 MHz B2/25 IBW UL: 65 MHz		
FDD	B2/25: 80 MHz		
Frequency	B2/25 TX (DL): 1930–1995 MHz RX (UL): 1850–1915 MHz	B2 CDMA TX (DL): 1931.25-1988.75 CDMA RX (UL): 1851.25-1908.75 GSM TX (DL): 1930.4-1989.6MHz GSM RX (UL): 1850.4-1909.6MHz	B2/25 LTE, NR, WCDMA, NB-IoT SA
Nominal O/P per Antenna port	80 W (49 dBm) /Port		
Nominal O/P (Max)	WCDMA, LTE, NR: SRO: 80 W (49 dBm) MC/MRO: 80W (49 dBm total)	CDMA: SRO 20W (43dBm) GSM: SRO 60W (47.8dBm) NB-IoT SA: SRO 20W (43dBm)	
Accuracy (nominal)	±0.1 ppm		
Nominal voltage	−48 V_{DC} @ 20 A		
RAT	B2 GSM: SC/MC/SRO/MRO CDMA: SC/SRO/MRO	B2/25 WCDMA: SC/MC/SRO/MRO NB-IoT SA: SC/SRO/MRO LTE: SC/MC/SRO/MRO (LTE+NB-IoT (GB, IB)) NR: SC/MC/SRO/MRO	
Modulation	LTE/NR: QPSK, 16 QAM, 64 QAM, 256 QAM WCDMA: QPSK, 16 QAM, 64 QAM		
Channel bandwidth	CDMA: 1.25MHz LTE: 1.4, 3, 5, 10, 15, 20 MHz NR: 5, 10, 15, 20 MHz WCDMA: 5MHz GSM: 245kHz NB-IoT SA: 200kHz		
Channel bandwidth LTE + NB-IoT	LTE + NB-IoT: GB, IB (200 kHz)	LTE BW: 5, 10, 15, 20 MHz	
Maximum combined OBW per port	B2/25: 65 MHz		
CPRI	10 Gbps		
Channel raster	LTE/NR/NB-IoT SA: 100 kHz; WCDMA/GSM: 200 kHz; CDMA: 50kHz		
Regulatory requirements FCC/IC ID:	Radio: FCC Part 2, 24, FCC ID: TA8FKRC161688	RSS-133, RSS-GEN IC ID: 287AB-FS161688	HVIN: FS1616881, FS1616883
	EMC: FCC Part 15, ICES-003		
	Safety: IEC/EN 62368-1, UL/CSA 62368-1 IEC/EN 60950-22, UL 50E /CAN/CSA, IEC/EN 60529, Type 3 Enclosure		

EUT information, continued

Emission Designator	CDMA: 1M25F9W WCDMA: 5M00F9W GSM: 245KG7W, 242KGXW NB-IoT SA: 210KG7D, 205KG7D LTE: 1M40F9W, 3M00F9W, 5M00W7D, 10M0W7D, 15M0W7D, 20M0W7D NR: 5M00W7D, 10M0W7D, 15M0W7D, 20M0W7D
Supported Configurations	Single Antenna, TX Diversity, MIMO, Carrier Aggregation, Ericsson Spectral Sharing (ESS)
Operating temperature	–40 °C to +55 °C
Total Power based on IBW	80W /Port – Total / Radio: 160W
Supported carrier / Port	CDMA: 1 GSM: 4 NB-IoT SA: 1 WCDMA: 1-6 NR: 1-6 (5, 10MHz), 1-3 (15, 20MHz) LTE: 1-6 (1.4, 3, 5, 10MHz), 1-3 (15, 20MHz) LTE + NB-IoT: GB (1–2), IB (1–2)

3.2 Product description and theory of operation

EUT description of the methods used to exercise the EUT and all relevant ports:

Description/theory of operation	The Radio 2212 B2/25 (KRC 161 688/1, KRC 161 688/3) is a multi-standard remote radio forming part of the Ericsson RBS (Radio Base Station) equipment. The Radio 2212 provides radio access for mobile and fixed devices and is designed for the outdoor environment. Radio unit installation is designed for pole, wall or mast mount options intended for co-location near the antenna. A fiber optic interface provides the RRU/RBS control and digital interface between the Radio and the RBS. The Radio 2212 product is convection cooled and shall be mounted vertically. The KRC 161 688/3 is physically and electrically identical to KRC 161 688/1. The KRC 161 688/3 product is subject to additional product integrity testing qualified against NEBS. Horizontal mounting is supported with forced air cooling with an optional fan tray assembly NTB 101 879/1 consisting of BKV 106 208/1 (Fan Assembly) and SXK 125 3359/1 (Cover Assembly). Output RF Power is rated at 2 × 80 W. Altitude during operation: Below 3000 m

Radio I/O Description

Port	Description
ANT A	RF Out A
ANT B	RF Out B
RET	Antenna Line Device
Alarm	Alarm and DC for Optional Fan Tray
Data 1	Optical Interface Data 1
Data 2	Optical Interface Data 2
DC Input	−48 V_{DC}
MMI	Display - Radio Status
GND	Ground

Physical

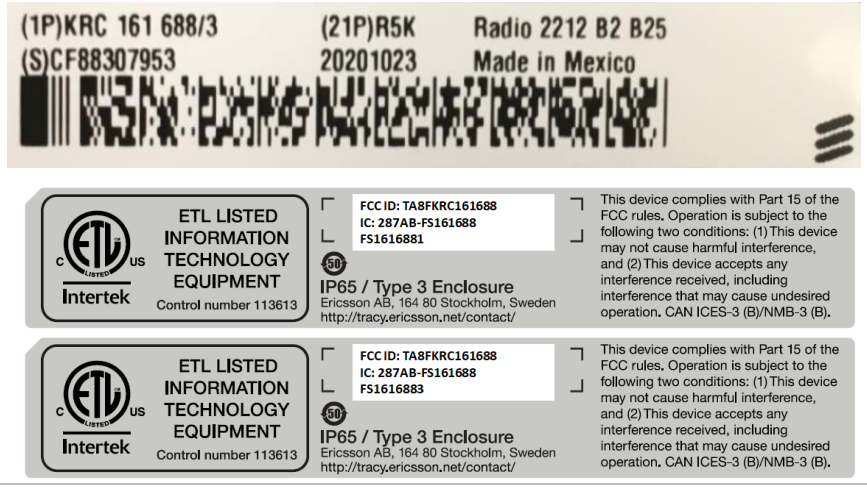
Dimensions	420 × 342 × 149 mm (H × W × D) [420 × 342 × 160 mm with fan unit]
Weight	17.0 kg [18.5 kg with fan unit]
Operating Temperature	−40 to +55 °C
Mounting	Pole, Wall Mount
Cooling	Convection (optional fan tray - forced air)

Software details: CXP9013268_15-R85MA

Radio Hardware Configuration

Product: KRC 161 688/1 (R5K)	Revision	Product: KRC 161 688/3 (R5K)	Revision	Description
ROA 128 6601/25	RIF	ROA 128 6601/25	RIF	PBA
ROR 101 6080/25	R1D	ROR 101 6080/25	R1D	Circuit Module
KRF 901 350/2	R1A	KRF 901 350/2	R1A	FU
SXA 103 0094/1	R1	SXA 103 0094/1	R1	Mechanical Component
NTB 101 0085/2	R3C	NTB 101 0366/1	R3C	Parts

Product Identification Label
KRC 161 688/1
KRC 161 688/3



3.3 EUT test details

EUT setup/configuration rationale for Down link:

RAT	Modulation	Performance Requirement	Test Model / Configuration
LTE/NR	QPSK	N/A	E-TM1.1
LTE/NR	16QAM	N/A	E-TM3.2
LTE/NR	64QAM	N/A	E-TM3.1
LTE/NR	256QAM	N/A	E-TM3.1a

CIIPC Configurations:
SRO CDMA: B, M, T
MRO: C+L, C+NR, C+L+NR

CDMA Single Carrier B2

Bandwidth, MHz	CDMA Transmit / DL, MHz					
	B	ARFCN	M	ARFCN	T	ARFCN
1.25	1931.25	*25*	1960	*600*	1988.75	*1175*

Bandwidth, MHz	CDMA Transmit / UL, MHz					
	B	ARFCN	M	ARFCN	T	ARFCN
1.25	1851.250	*25*	1880.000	*600*	1908.750	*1175*

LTE Single Carrier B25

Bandwidth, MHz	LTE Transmit / DL, MHz					
	B	EARFCN	M	EARFCN	T	EARFCN
1.4	1930.7	*8047*	1962.5	*8365*	1994.3	*8683*
3	1931.5	*8055*	1962.5	*8365*	1993.5	*8575*
5	1932.5	*8065*	1962.5	*8365*	1992.5	*8665*
10	1935.0	*8090*	1962.5	*8365*	1990.0	*8640*
15	1937.5	*8115*	1962.5	*8365*	1987.5	*8615*
20	1940.0	*8140*	1962.5	*8365*	1985.0	*8590*

Bandwidth, MHz	LTE Receive / UL, MHz					
	B	EARFCN	M	EARFCN	T	EARFCN
5	1852.5	*26065*	1882.5	*26365*	1912.5	*26665*
10	1855.0	*26090*	1882.5	*26365*	1910.0	*26640*
15	1857.5	*26115*	1882.5	*26365*	1907.5	*26615*
20	1860.0	*26140*	1882.5	*26365*	1905.0	*26590*

NR Single Carrier B25

Bandwidth, MHz	NR Transmit / DL, MHz					
	B	NR-ARFCN	M	NR-ARFCN	T	NR-ARFCN
5	1932.5	*386500*	1962.5	*392500*	1992.5	*398500*
10	1935.0	*387000*	1962.5	*392500*	1990.0	*398000*
15	1937.5	*387500*	1962.5	*392500*	1987.5	*397500*
20	1940.0	*388000*	1962.5	*392500*	1985.0	*397000*

EUT test details, continued

Bandwidth, MHz	NR Receive / UL, MHz					
	B	NR-ARFCN	M	NR-ARFCN	T	NR-ARFCN
5	1852.5	*370500*	1882.5	*376500*	1912.5	*382500*
10	1855.0	*371000*	1882.5	*376500*	1910.0	*382000*
15	1857.5	*371500*	1882.5	*376500*	1907.5	*381500*
20	1860.0	*372000*	1882.5	*376500*	1905.0	*381000*

B25 LTE Multi-Carrier for Band Edge Emissions:

Bandwidth, MHz	LTE Transmit / DL, MHz							
	B1	EARFCN	B2	EARFCN		T2	EARFCN	T1	EARFCN
5	1932.5	*8065*	1937.5	*8115*		1987.5	*8615*	1992.5	*8665*
10	1935.0	*8090*	1945.0	*8190*		1980.0	*8540*	1990.0	*8640*
15	1937.5	*8115*	1952.5	*8265*		1972.5	*8465*	1987.5	*8615*
20	1940.0	*8140*	1960.0	*8340*		1965.0	*8390*	1985.0	*8590*

Bandwidth, MHz	LTE Receive / UL, MHz							
	B1	EARFCN	B2	EARFCN		T2	EARFCN	T1	EARFCN
5	1852.5	*26065*	1857.5	*26115*		1907.5	*26615*	1912.5	*26665*
10	1855.0	*26090*	1865.0	*26190*		1900.0	*26540*	1910.0	*26640*
15	1857.5	*26115*	1872.5	*26265*		1892.5	*26465*	1907.5	*26615*
20	1860.0	*26140*	1880.0	*26340*		1885.0	*26390*	1905.0	*26590*

B25 NR Multi-Carrier for Band Edge Emissions:

Bandwidth, MHz	NR Transmit / DL, MHz								
	B1	NR-ARFCN	B2	NR-ARFCN		T2	NR-ARFCN	T1	NR-ARFCN
5	1932.5	*386500*	1937.5	*387500*		1987.5	*397500*	1992.5	*398500*
10	1935.0	*387000*	1945.0	*389000*		1980.0	*396000*	1990.0	*398000*
15	1937.5	*387500*	1952.5	*390500*		1972.5	*394500*	1987.5	*397500*
20	1940.0	*388000*	1960.0	*392000*		1965.0	*393000*	1985.0	*397000*

Bandwidth, MHz	NR Receive / UL, MHz								
	B1	NR-ARFCN	B2	NR-ARFCN		T2	NR-ARFCN	T1	NR-ARFCN
5	1852.5	*370500*	1857.5	1852.5		1907.5	*381500*	1912.5	*382500*
10	1855.0	*371000*	1865.0	1855.0		1900.0	*380000*	1910.0	*382000*
15	1857.5	*371500*	1872.5	1857.5		1892.5	*378500*	1907.5	*381500*
20	1860.0	*372000*	1880.0	1860.0		1885.0	*377000*	1905.0	*381000*

B25 LTE Multiple-Carriers for spurious emissions (IBW=65MHz):

Bandwidth (MHz)	LTE Transmit / DL (MHz)			
	C1	*EARFCN*	C2	*EARFCN*
5	1932.5	*8065*	1992.5	*8665*
10	1935.0	*8090*	1990.0	*8640*
15	1937.5	*8115*	1987.5	*8615*
20	1940.0	*8140*	1985.0	*8590*

Bandwidth (MHz)	LTE Receive / UL (MHz)			
	C1	*EARFCN*	C2	*EARFCN*
5	1852.5	*26065*	1912.5	*26665*
10	1855.0	*26090*	1910.0	*26640*
15	1857.5	*26115*	1907.5	*26615*
20	1860.0	*26140*	1905.0	*26590*

EUT test details, continued

B25 LTE Multi-Carrier for Band Edge Emissions:

Bandwidth, MHz	Transmit / DL, MHz							
	B1	EARFCN	B2	EARFCN		T2	EARFCN	T1	EARFCN
5	1932.5	*66461*	1937.5	*66511*		1987.5	*67011*	1992.5	*67061*
10	1935.0	*66486*	1945.0	*66586*		1980.0	*66936*	1990.0	*67036*
15	1937.5	*66511*	1952.5	*66661*		1972.5	*66861*	1987.5	*67011*
20	1940.0	*66536*	1960.0	*66736*		1965.0	*66786*	1985.0	*66986*

Bandwidth, MHz	Receive / UL, MHz							
	B1	EARFCN	B2	EARFCN		T2	EARFCN	T1	EARFCN
5	1852.5	*131997*	1857.5	*132047*		1907.5	*132547*	1912.5	*132597*
10	1855.0	*132022*	1865.0	*132122*		1900.0	*132472*	1910.0	*132572*
15	1857.5	*132047*	1872.5	*132197*		1892.5	*132397*	1907.5	*132547*
20	1860.0	*132072*	1880.0	*132272*		1885.0	*132322*	1905.0	*132522*

B25 NR Multi-Carrier for Band Edge Emissions:

Bandwidth, MHz	Transmit / DL, MHz							
	B1	NR-ARFCN	B2	NR-ARFCN		T2	NR-ARFCN	T1	NR-ARFCN
5	1932.5	*386500*	1937.5	*387500*		1987.5	*397500*	1992.5	*398500*
10	1935.0	*387000*	1945.0	*389000*		1980.0	*396000*	1990.0	*398000*
15	1937.5	*387500*	1952.5	*390500*		1972.5	*394500*	1987.5	*397500*
20	1940.0	*388000*	1960.0	*392000*		1965.0	*393000*	1985.0	*397000*

Bandwidth, MHz	Receive / UL, MHz							
	B1	NR-ARFCN	B2	NR-ARFCN		T2	NR-ARFCN	T1	NR-ARFCN
5	1852.5	*370500*	1857.5	1852.5		1907.5	*381500*	1912.5	*382500*
10	1855.0	*371000*	1865.0	1855.0		1900.0	*380000*	1910.0	*382000*
15	1857.5	*371500*	1872.5	1857.5		1892.5	*378500*	1907.5	*381500*
20	1860.0	*372000*	1880.0	1860.0		1885.0	*377000*	1905.0	*381000*

B25 NR Multiple-Carriers for spurious emissions (IBW=65MHz):

Bandwidth (MHz)	NR Receive / UL (MHz)					
	C1	*NR-ARFCN*	C2	*NR-ARFCN*	C3	*NR-ARFCN*
5	1712.5	*342500*	1717.5	*343500*	1797.5	*359500*
10	1715.0	*343000*	1725.0	*345000*	1795.0	*359000*
15	1717.5	*343500*	1732.5	*346500*	1792.5	*358500*
20	1720.0	*344000*	1740.0	*348000*	1790.0	*358000*

3.4 EUT setup diagram

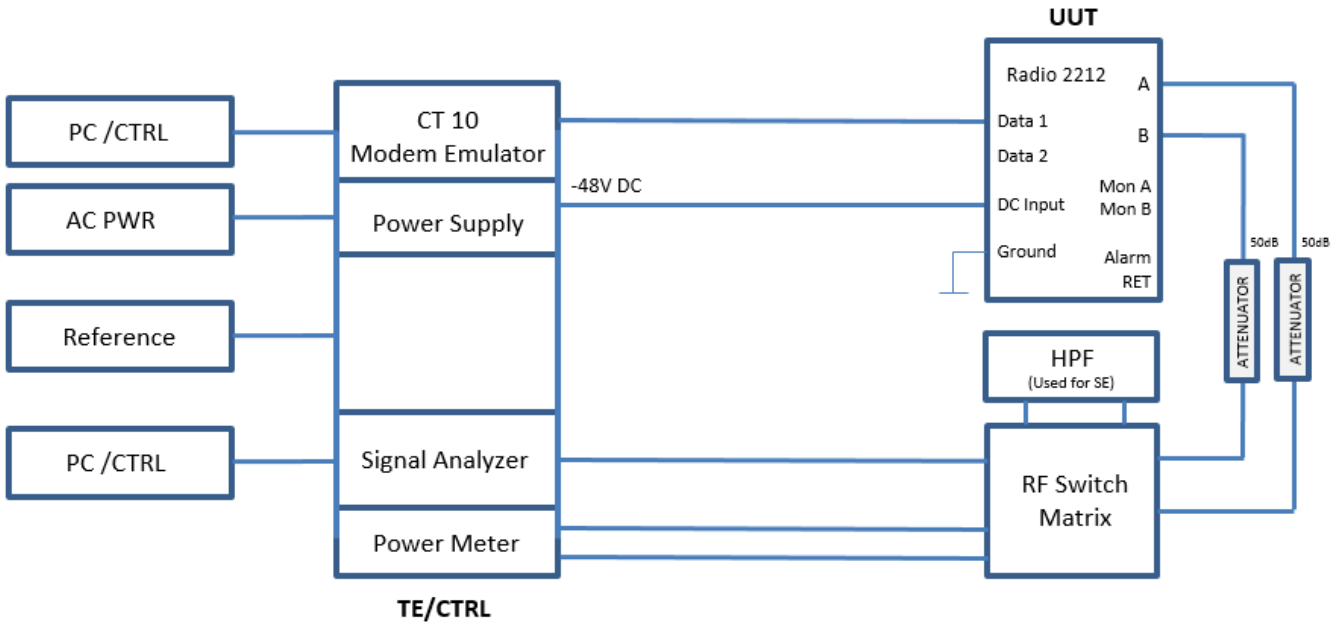


Figure 3.4-1: *Setup diagram – Radio Compliance*

3.5 Setup photographs, continued

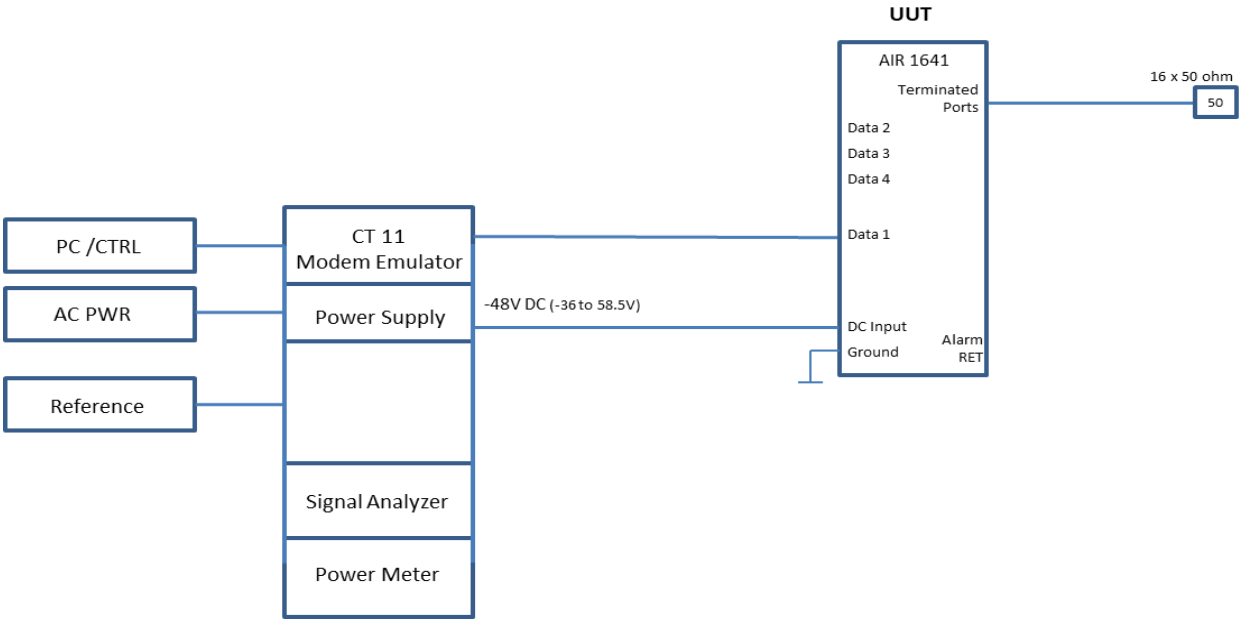


Figure 3.5-1: *EUT Set-up diagram for Radiated Compliance Testing*

Figure 3.5-2: *EUT Set-up photo for Radiated Compliance Testing*

Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

The KRC 161 688/3 is physically and electrically identical to KRC 161 688/1. The KRC 161 688/3 product is subject to additional product integrity testing qualified against NEBS.

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5. Test conditions

5.1 Atmospheric conditions

Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	860–1060 mbar

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages ±5 %, for which the equipment was designed.

Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of K = 2 with 95% certainty.

Test name	Measurement uncertainty, dB
All antenna port measurements	0.55
Conducted spurious emissions	1.13
Radiated spurious emissions	3.78

Section 7. Test equipment

7.1 Test equipment list

Table 7.1-1: *Equipment list*

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA002047	1 year	April 24, 2021
Flush mount turntable	Sunol	FM2022	FA002082	—	NCR
Controller	Sunol	SC104V	FA002060	—	NCR
Antenna mast	Sunol	TLT2	FA002061	—	NCR
DC Power source	Ametek	SGA80X125C-0AAA	FA002737	—	VOU
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 26	FA002043	1 year	November 6, 2021
Biconical antenna (30–300 MHz)	Sunol	BC2	FA002078	1 year	April 30, 2021
Log periodic antenna (200–5000 MHz)	Sunol	LP5	FA002077	1 year	April 30, 2021
Horn antenna (18–40 GHz)	EMCO	3116	FA001847	1 year	May 7, 2021
Pre-amplifier (18–26 GHz)	Narda	BBS-1826N612	FA001550	—	VOU
Horn antenna (1–18 GHz)	EMCO	3115	FA000825	1 year	April 30, 2021
Preamp (1–18 GHz)	ETS Lindgren	124334	FA002873	1 year	October 13, 2021
50 Ω coax cable	C.C.A.	None	FA002556	1 year	April 9, 2021
High pass filter (3-18 GHz)	Thilithic Inc.	6HC3000/18000-1.3-KK	FA002231	—	VOU
Spectrum signal analyzer (Ericsson)	Keysight	PXA N9030B	BAMS1002036362	1 year	24 April 2021
Testing Equipment*	Ericsson	CT11	T01G495060	—	NCR

Notes: NCR - no calibration required, VOU - verify on use.

* Testing equipment (CT11) is the test equipment that drives the radios traffic.

Section 8. Testing data

8.1 Transmitter output power (EIRP) and antenna height

8.1.1 Definitions and limits

FCC §24.232(a)(2):

Base stations with an emission bandwidth greater than 1 MHz are limited to 1640 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below.
(2) Base station antenna heights may exceed 300 meters HAAT with a corresponding reduction in power; see table below.
(b)(1) Base stations that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census, with an emission bandwidth of 1 MHz or less are limited to 3280 watts equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT.
(d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. 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.

RSS-133, Section 6.4
The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510.
In addition, the transmitter's peak-to-average power ratio (PAPR) shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

SRSP-510, Section 5.1
5.1.1 Base stations
For base stations with a channel bandwidth greater than 1 MHz, the maximum e.i.r.p. is limited to 3280 watts/MHz e.i.r.p. (i.e., no more than 3280 watts e.i.r.p. in any 1 MHz band segment) with an antenna height above average terrain (HAAT) up to 300 metres. Fixed or base stations operating in urban areas are limited to a maximum allowable e.i.r.p. of 1640 watts/MHz e.i.r.p. Base station antenna heights above average terrain may exceed 300 metres with a corresponding reduction in e.i.r.p. according to the following table.

Table 8.1-1: *Reduction to Maximum Allowable E.I.R.P. for HAAT > 300 m*

HAAT (m)	Maximum EIRP, W/MHz
HAAT ≤ 300	1640
300 < HAAT ≤ 500	1070
500 < HAAT ≤ 1000	490
1000 < HAAT ≤ 1500	270
1500 < HAAT ≤ 2000	160

8.1.2 Test summary

Test date	March 30, 2021
Test engineer	Andrey Adelberg

8.1.3 Observations, settings and special notes

- PSD was measured using method described in paragraph 5.2.4.4.

Based on the RF margins noted in this report, considerations pertaining to the maximum allowed EIRP and antenna type should be considered for each installation. The minimum margin found was 17.23 dB.

- Channel output power was measured using spectrum analyzer with channel power measurement mode.

Spectrum analyzer settings for PSD:

Detector mode	RMS
Resolution bandwidth	1 MHz
Video bandwidth	>RBW
Measurement mode	Power over emission bandwidth
Trace mode	Averaging
Measurement time	Auto

8.1.1 Test data

Table 8.1-2: *Output power density measurement results of a single-carrier operation for CDMA*

Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.25	42.56	42.11	45.35	41.88	41.19	44.56	62.15	17.59
1960.00	42.64	42.23	45.45	42.18	41.62	44.92	62.15	**17.23**
1988.75	42.50	42.23	45.38	41.88	41.81	44.86	62.15	17.29

Table 8.1-3: *Output power density measurement results of a two-carrier operation of CDMA and LTE 5 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1934.375	48.44	47.96	51.22	41.60	41.32	44.47	62.15	17.68
1957.500	1960.625	48.49	48.13	51.32	41.90	41.46	44.70	62.15	17.45
1988.750	1985.625	48.31	48.12	51.23	41.69	41.42	44.57	62.15	17.58

Table 8.1-4: *Output power density measurement results of a two-carrier operation of CDMA and LTE 10 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1936.875	48.27	47.81	51.06	41.25	40.75	44.02	62.15	18.13
1955.000	1960.625	48.40	48.00	51.21	41.39	41.00	44.21	62.15	17.94
1988.750	1983.125	48.23	47.96	51.11	41.43	41.11	44.28	62.15	17.87

Table 8.1-5: *Output power density measurement results of a two-carrier operation of CDMA and LTE 15 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1939.375	48.83	48.32	51.59	41.65	41.04	44.37	62.15	17.78
1952.500	1960.625	48.92	48.48	51.72	41.66	41.55	44.62	62.15	17.53
1988.750	1980.625	48.70	48.35	51.54	41.69	41.19	44.46	62.15	17.69

Test data, continued

Table 8.1-6: *Output power density measurement results of a two-carrier operation of CDMA and LTE 20 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1941.875	48.74	48.32	51.55	41.53	40.95	44.26	62.15	17.89
1950.000	1960.625	48.84	48.47	51.67	41.45	41.51	44.49	62.15	17.66
1988.750	1978.125	48.72	48.41	51.58	41.56	41.33	44.46	62.15	17.69

Table 8.1-7: *Output power density measurement results of a two-carrier operation of CDMA and NR 5 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1934.375	48.33	47.80	51.08	41.65	41.13	44.41	62.15	17.74
1957.500	1960.625	48.57	48.13	51.37	41.98	41.63	44.82	62.15	17.33
1988.750	1985.625	48.32	47.91	51.13	41.87	41.52	44.71	62.15	17.44

Table 8.1-8: *Output power density measurement results of a two-carrier operation of CDMA and NR 10 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1936.875	48.17	47.67	50.94	41.23	40.88	44.07	62.15	18.08
1955.000	1960.630	48.28	47.83	51.07	41.63	41.23	44.44	62.15	17.71
1988.750	1983.125	48.10	47.78	50.95	41.31	40.77	44.06	62.15	18.09

Table 8.1-9: *Output power density measurement results of a two-carrier operation of CDMA and NR 15 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1939.375	48.69	48.17	51.45	41.69	41.27	44.50	62.15	17.65
1952.500	1960.625	48.81	48.34	51.59	41.88	41.47	44.69	62.15	17.46
1988.750	1980.625	48.60	48.30	51.46	41.81	41.46	44.65	62.15	17.50

Table 8.1-10: *Output power density measurement results of a two-carrier operation of CDMA and NR 20 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1941.875	48.73	48.23	51.50	41.46	41.16	44.32	62.15	17.83
1950.000	1960.625	48.83	48.40	51.63	42.00	41.44	44.74	62.15	17.41
1988.750	1978.125	48.70	48.39	51.56	41.22	41.60	44.42	62.15	17.73

Table 8.1-11: *Output power density measurement results of a three-carrier operation of CDMA, LTE 5 MHz and NR 5 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	NR Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1934.375	1939.375	47.81	47.30	50.57	40.82	40.54	43.69	62.15	18.46
1955.000	1958.125	1963.125	47.93	47.46	50.71	41.01	40.66	43.85	62.15	18.30
1988.750	1985.625	1980.625	47.73	47.40	50.58	41.10	40.56	43.85	62.15	18.30

Table 8.1-12: *Output power density measurement results of a three-carrier operation of CDMA, LTE 10 MHz and NR 10 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	NR Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1936.875	1946.875	48.07	47.58	50.84	40.74	40.68	43.72	62.15	18.43
1950.000	1955.625	1965.625	48.15	47.76	50.97	41.11	40.86	44.00	62.15	18.15
1988.750	1983.125	1973.125	47.99	47.67	50.84	41.10	40.70	43.91	62.15	18.24

Table 8.1-13: *Output power density measurement results of a three-carrier operation of CDMA, LTE 15 MHz and NR 15 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	NR Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1939.375	1954.375	48.76	48.24	51.52	41.47	40.82	44.17	62.15	17.98
1945.000	1953.125	1968.125	48.99	48.41	51.72	41.82	41.17	44.52	62.15	17.63
1988.750	1980.625	1965.625	48.85	48.27	51.58	41.65	41.00	44.35	62.15	17.80

Table 8.1-14: *Output power density measurement results of a three-carrier operation of CDMA, LTE 20 MHz and NR 20 MHz channel*

CDMA Frequency, MHz	LTE Frequency, MHz	NR Frequency, MHz	Port A power, dBm	Port B power, dBm	Combined total power, dBm	RF power density A, dBm/MHz	RF power density B, dBm/MHz	Total RF power density, dBm/MHz	EIRP limit, dBm/MHz	Margin, dB
1931.250	1941.875	1961.875	48.87	48.23	51.57	41.70	40.99	44.37	62.15	17.78
1940.000	1950.625	1970.625	48.87	48.30	51.60	41.63	41.38	44.52	62.15	17.63
1988.750	1978.125	1958.125	48.75	48.37	51.57	41.65	41.15	44.42	62.15	17.73

Test data, continued

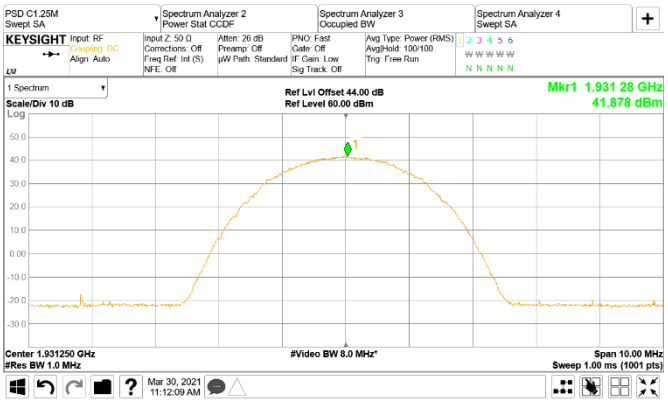


Figure 8.1-1: *PSD of CDMA, single carrier operation, sample plot*

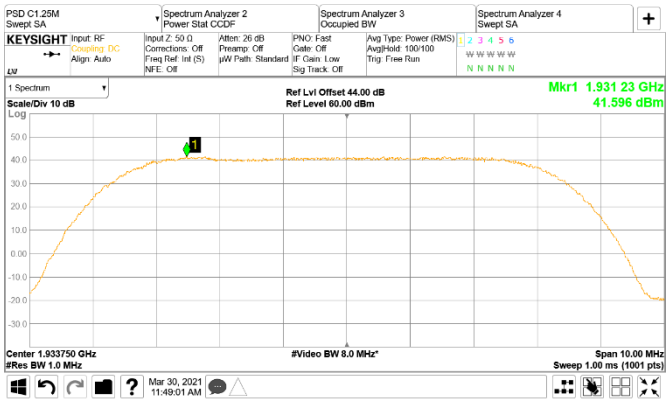


Figure 8.1-2: *PSD of CDMA and LTE 5 MHz, two-carrier operation, sample plot*

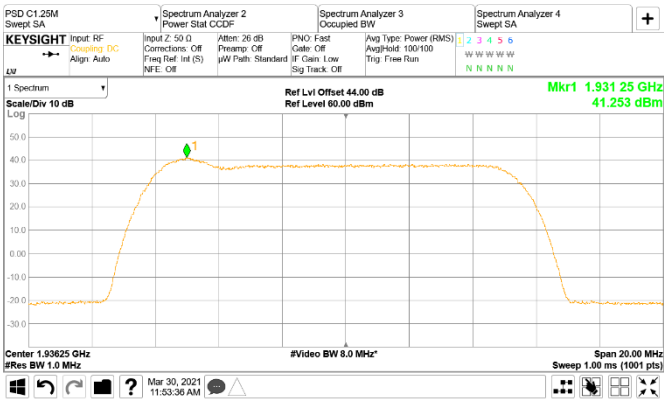


Figure 8.1-3: *PSD of CDMA and LTE 10 MHz, two-carrier operation, sample plot*

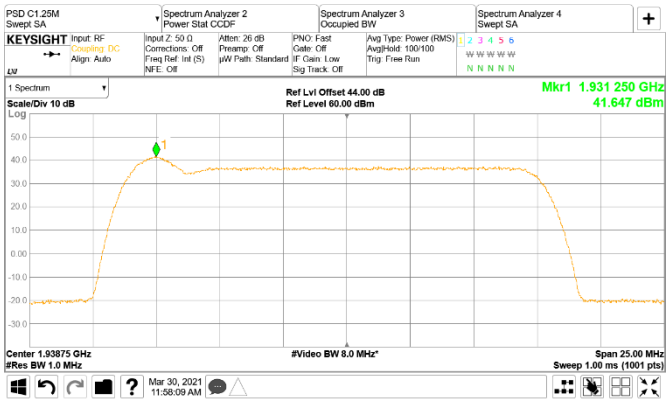


Figure 8.1-4: *PSD of CDMA and LTE 15 MHz, two-carrier operation, sample plot*

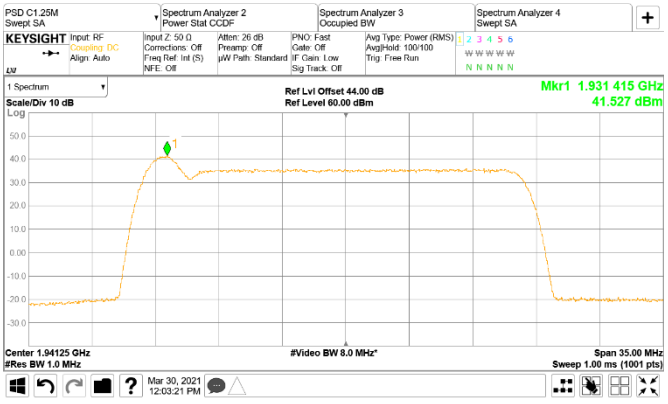


Figure 8.1-5: *PSD of CDMA and LTE 20 MHz, two-carrier operation, sample plot*

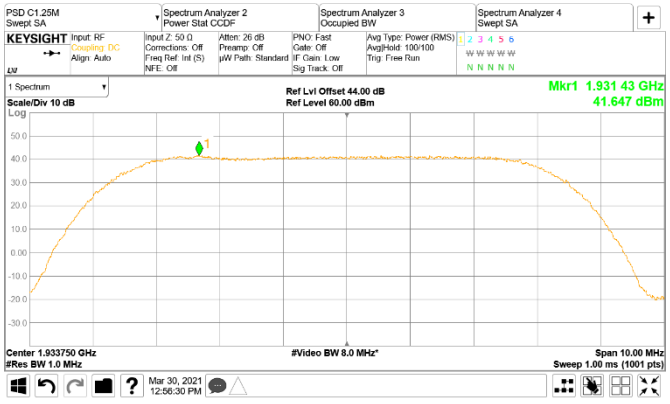


Figure 8.1-6: *PSD of CDMA and NR 5 MHz, two-carrier operation, sample plot*

Test data, continued

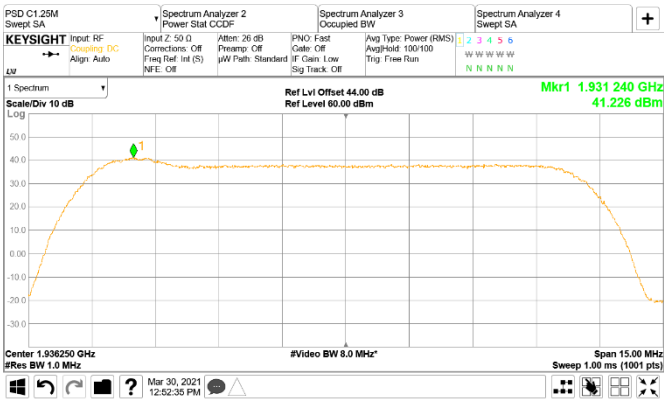


Figure 8.1-7: *PSD of CDMA and NR 10 MHz, two-carrier operation, sample plot*

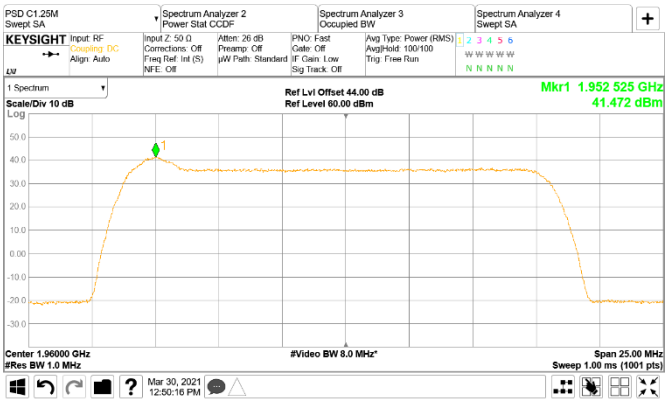


Figure 8.1-8: *PSD of CDMA and NR 15 MHz, two-carrier operation, sample plot*

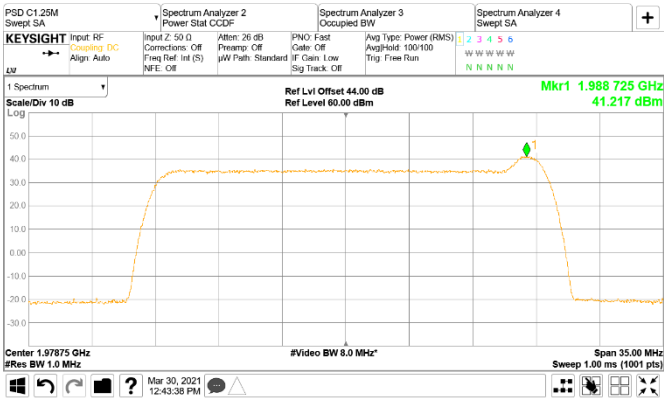


Figure 8.1-9: *PSD of CDMA and NR 20 MHz, two-carrier operation, sample plot*

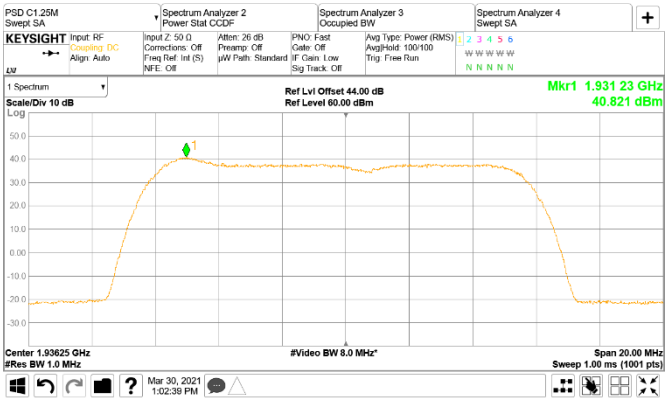


Figure 8.1-10: *PSD of CDMA, LTE 5 MHz and NR 5 MHz, three-carrier operation, sample plot*

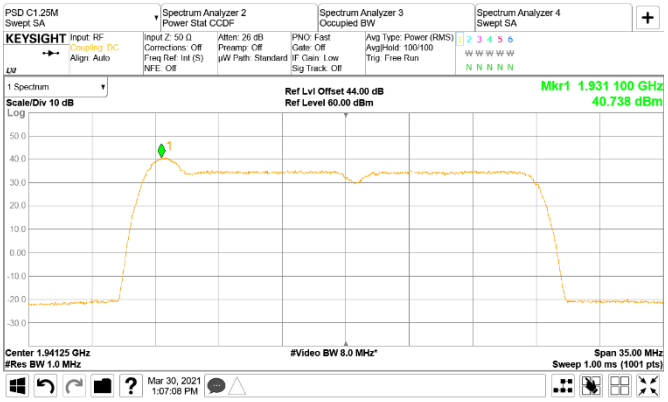


Figure 8.1-11: *PSD of CDMA, LTE 10 MHz and NR 10 MHz, three-carrier operation, sample plot*

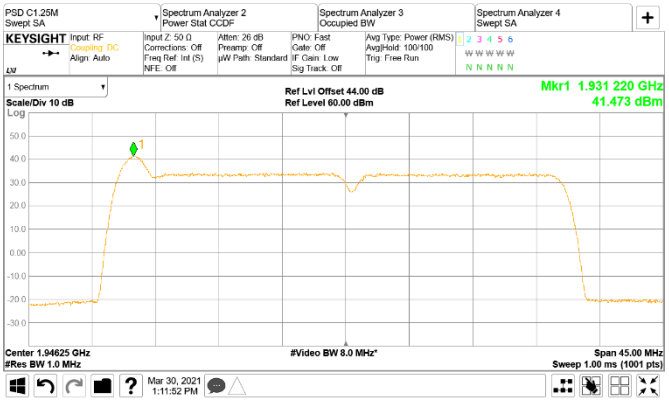


Figure 8.1-12: *PSD of CDMA, LTE 15 MHz and NR 15 MHz, three-carrier operation, sample plot*

Test data, continued

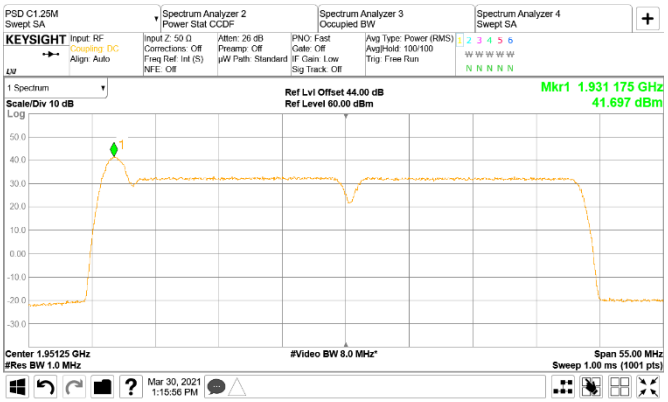


Figure 8.1-13: *PSD of CDMA, LTE 20 MHz and NR 20 MHz, three-carrier operation, sample plot*

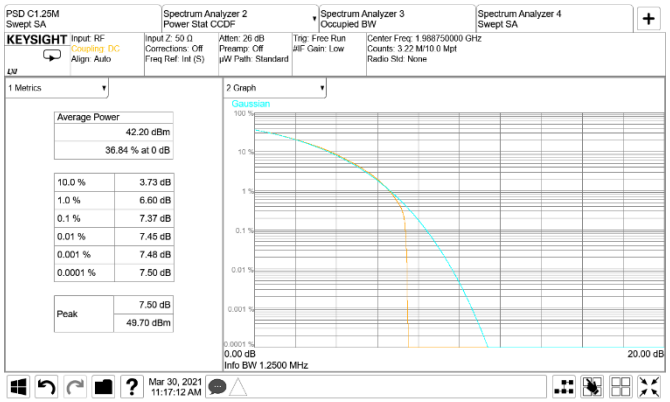


Figure 8.1-14: *CCDF sample plot for CDMA*

Table 8.1-15: *Complementary Cumulative Distribution Function (CCDF) of the PAPR reduction measurement results for CDMA*

Frequency, MHz	0.1% CCDF port A, dB	0.1% CCDF port B, dB	PAPR reduction limit, dB	Margin*, dB
1931.25	7.36	7.35	13.00	5.64
1960.00	7.34	7.34	13.00	5.66
1988.75	7.36	7.37	13.00	5.63

Note: *Margin was calculated as follows: Limit – max (CCDF measured at antenna port A and B)

8.2 Radiated spurious emissions

8.2.1 Definitions and limits

FCC §24.238(a):
Out of band emissions. 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.

(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). 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.

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

8.2.2 Test summary

Test date	February 8, 2021
Test engineer	Andrey Adelberg

8.2.3 Observations, settings and special notes

- The spectrum was searched from 30 MHz to the 10th harmonic per ANSI C63.26 Paragraph 5.5.3.2 method.
- RBW within 30–1000 MHz was 100 kHz and 1 MHz above 1 GHz. VBW was wider than RBW.
- Testing was performed with RF ports terminated with 50 Ohm load.
- **Testing was performed with CDMA, LTE and NR simultaneous transmission.**

8.2.4 Test data

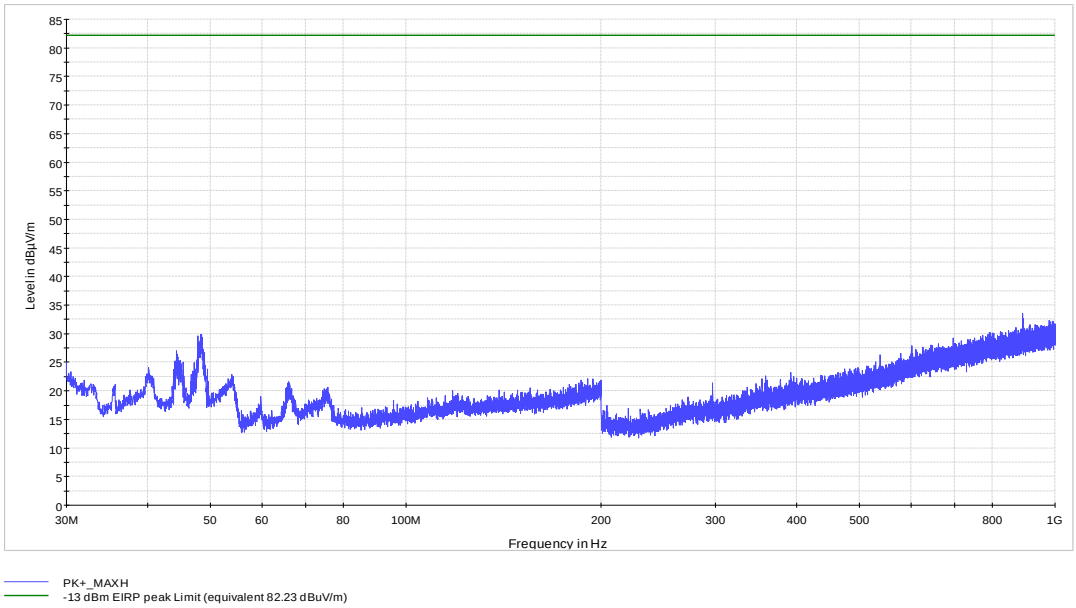


Figure 8.2-1: *Radiated spurious emissions within 30–1000 MHz*

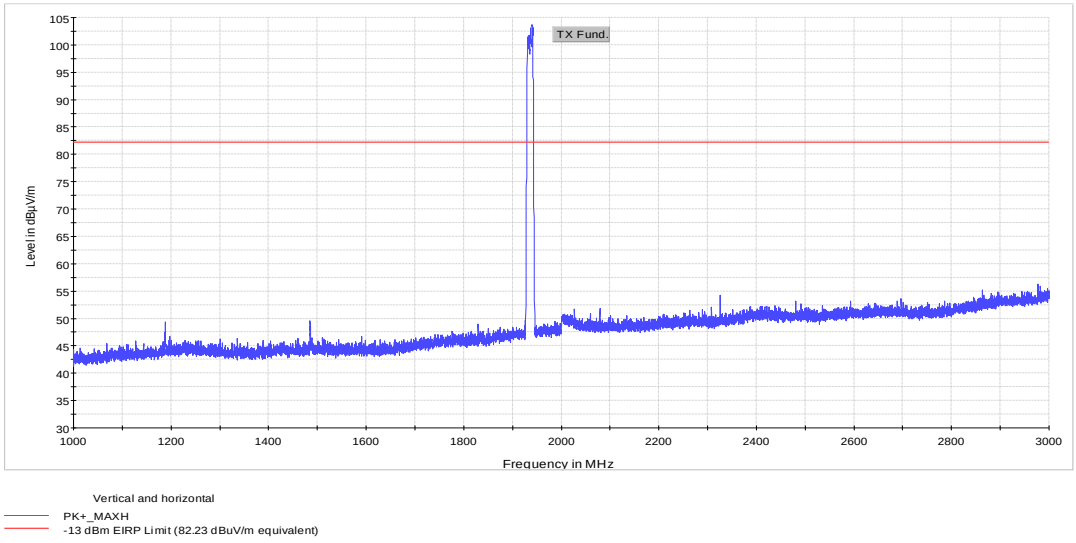


Figure 8.2-2: *Radiated spurious emissions within 1–3 GHz*

Test data, continued

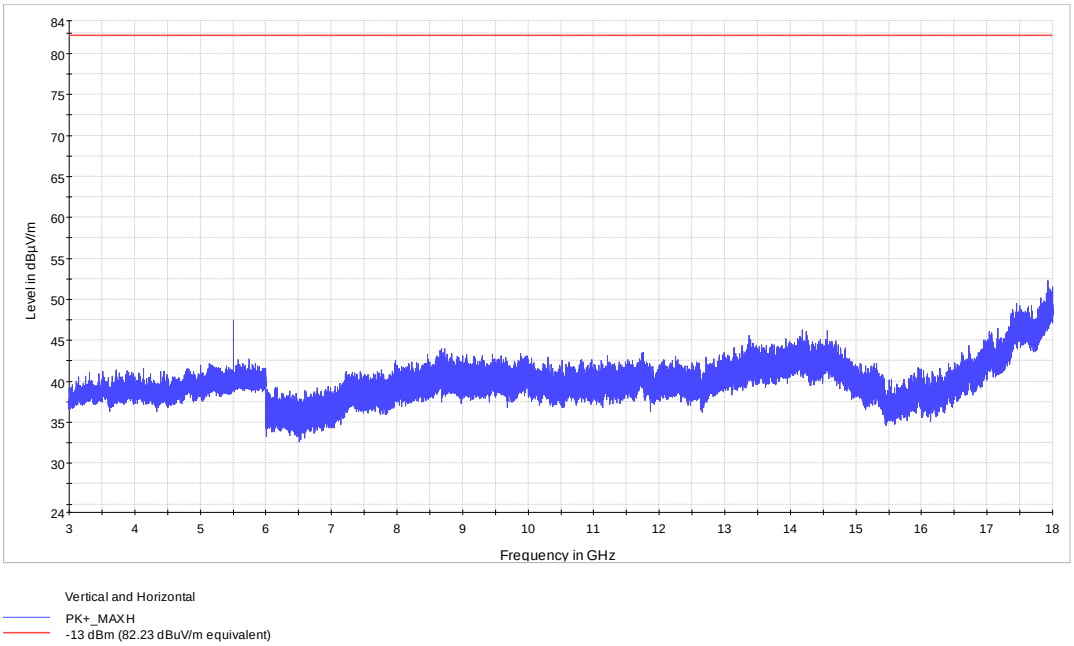


Figure 8.2-3: *Radiated spurious emissions within 3–18 GHz*

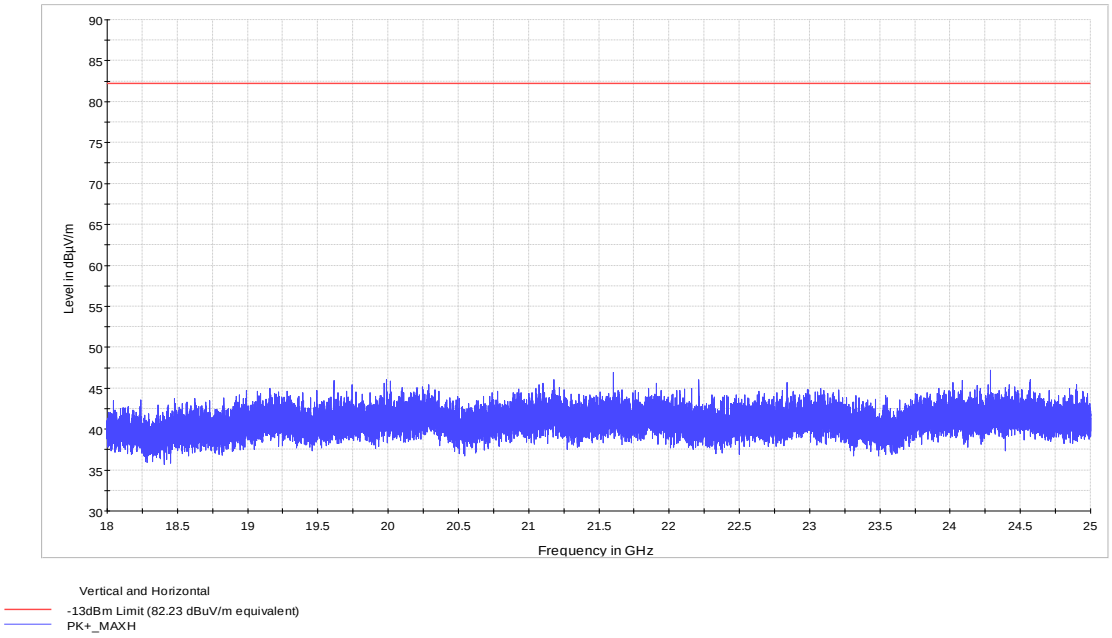


Figure 8.2-4: *Radiated spurious emissions within 18–25 GHz*

8.3 Spurious out-of-band emissions

8.3.1 Definitions and limits

FCC §24.238(a):
Out of band emissions. 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.

(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). 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.

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

8.3.2 Test summary

Test date	March 31, 2021
Test engineer	Andrey Adelberg

8.3.3 Observations, settings and special notes

- The spectrum was searched from 30 MHz to the 10th harmonic.
- All measurements were performed using an average (RMS) detector per ANSI C63.26 Paragraph 5.7.2 method.
- Limit line *[43 + 10 $\log_{10}$ (P) or −13 dBm]* was adjusted for MIMO operation by 3 dB*: −13 dBm – 3 dB = −16 dBm
  *MIMO correction factor for 2 antenna ports: 10 × Log_{10}(2) = 3 dB
- RBW 1 MHz, VBW was wider than RBW.

8.3.4 Test data

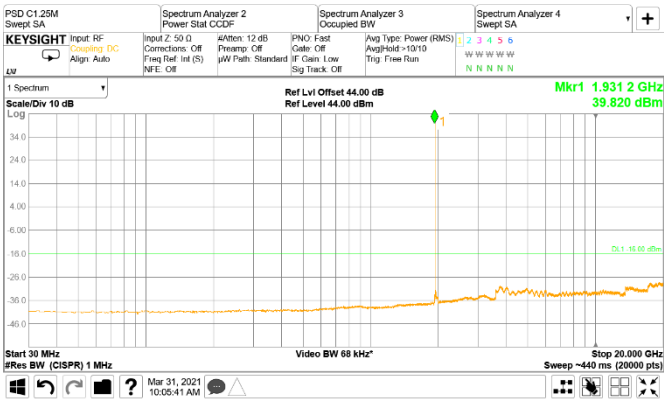


Figure 8.3-1: *Conducted spurious emissions of CDMA on low channel, single carrier operation, antenna port A*

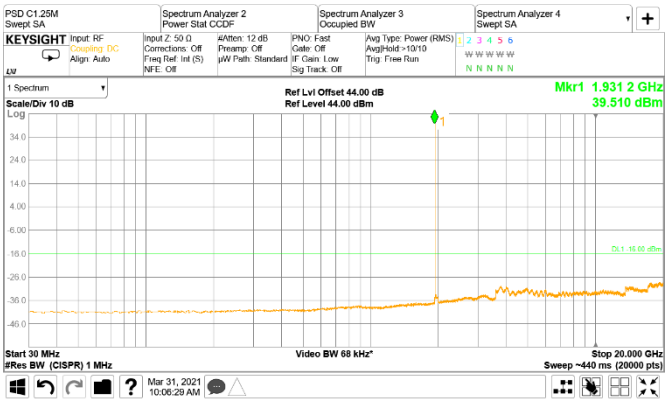


Figure 8.3-2: *Conducted spurious emissions of CDMA on low channel, single carrier operation, antenna port B*

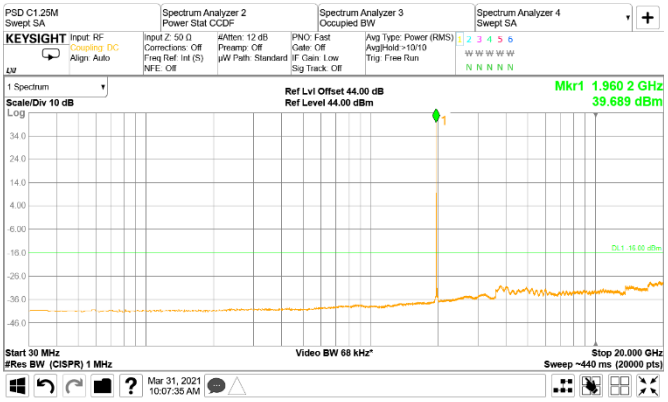


Figure 8.3-3: *Conducted spurious emissions of CDMA on mid channel, single carrier operation, antenna port A*

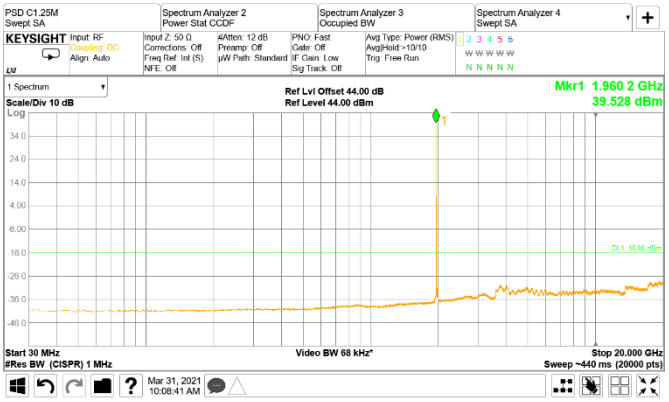


Figure 8.3-4: *Conducted spurious emissions of CDMA on mid channel, single carrier operation, antenna port B*

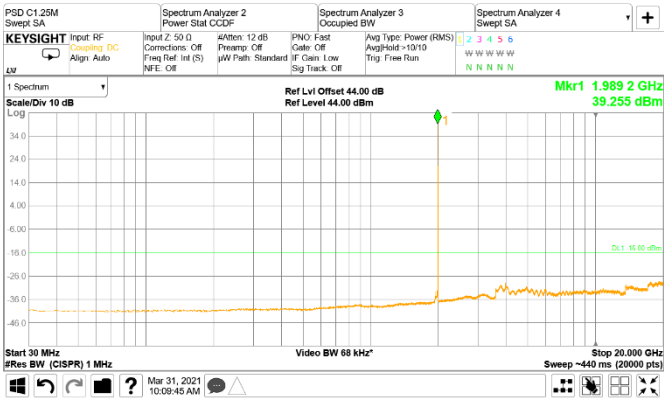


Figure 8.3-5: *Conducted spurious emissions of CDMA on top channel, single carrier operation, antenna port A*

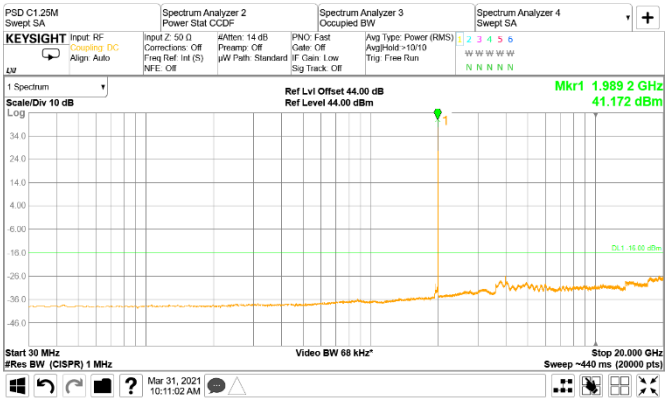


Figure 8.3-6: *Conducted spurious emissions of CDMA on top channel, single carrier operation, antenna port B*

Test data, continued

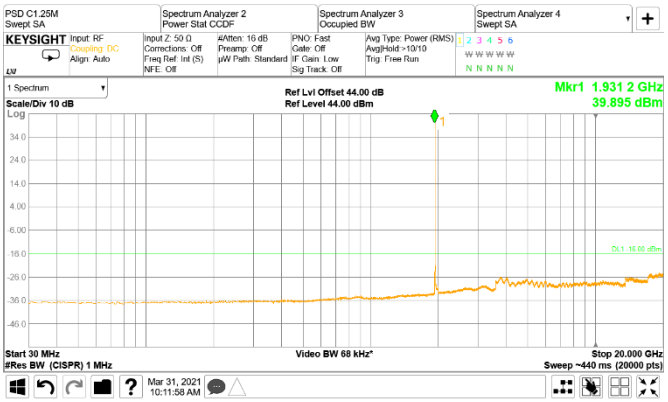


Figure 8.3-7: *Conducted spurious emissions of CDMA and LTE 5 MHz on low channel, two-carrier operation, antenna port A*

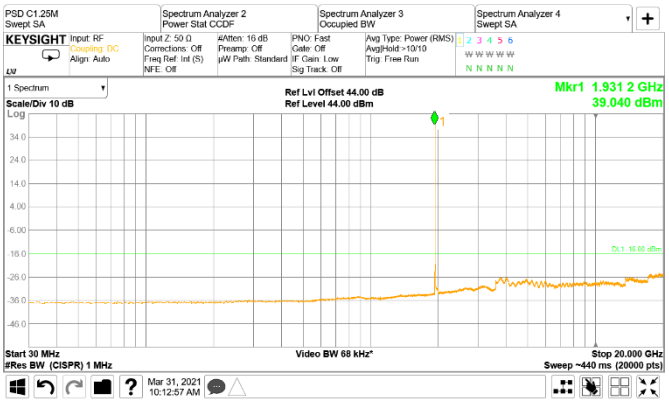


Figure 8.3-8: *Conducted spurious emissions of CDMA and LTE 5 MHz on low channel, two-carrier operation, antenna port B*

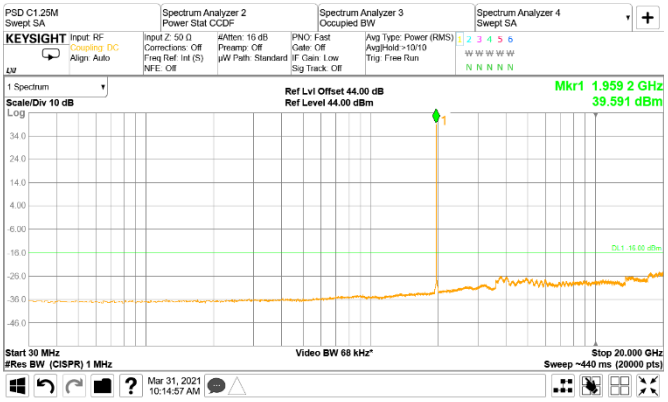


Figure 8.3-9: *Conducted spurious emissions of CDMA and LTE 5 MHz on mid channel, two-carrier operation, antenna port A*

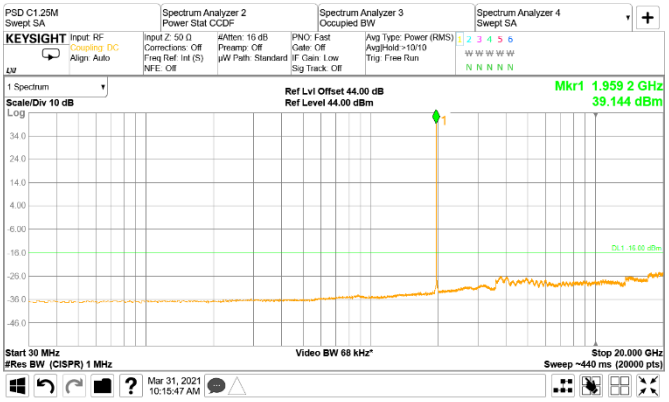


Figure 8.3-10: *Conducted spurious emissions of CDMA and LTE 5 MHz on mid channel, two-carrier operation, antenna port B*

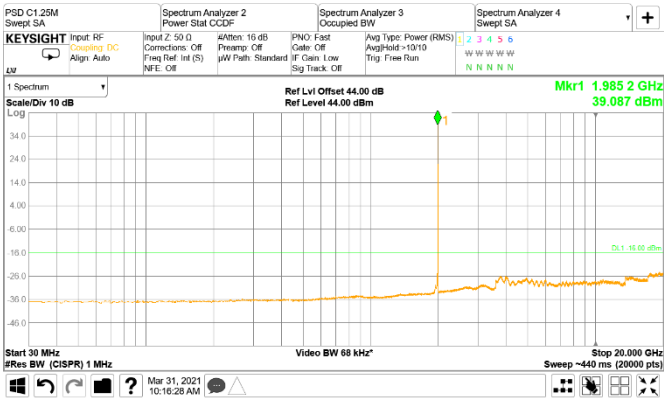


Figure 8.3-11: *Conducted spurious emissions of CDMA and LTE 5 MHz on top channel, two-carrier operation, antenna port A*

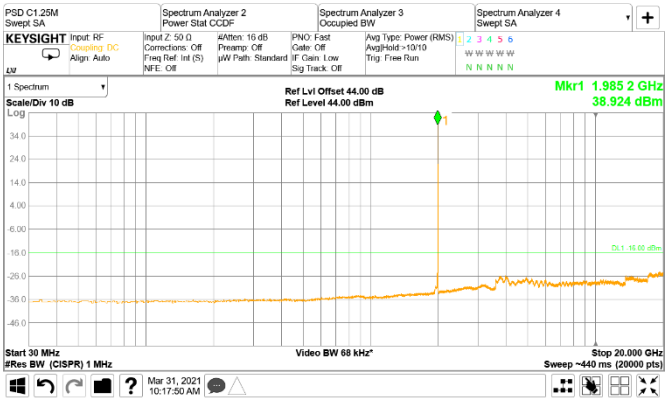


Figure 8.3-12: *Conducted spurious emissions of CDMA and LTE 5 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

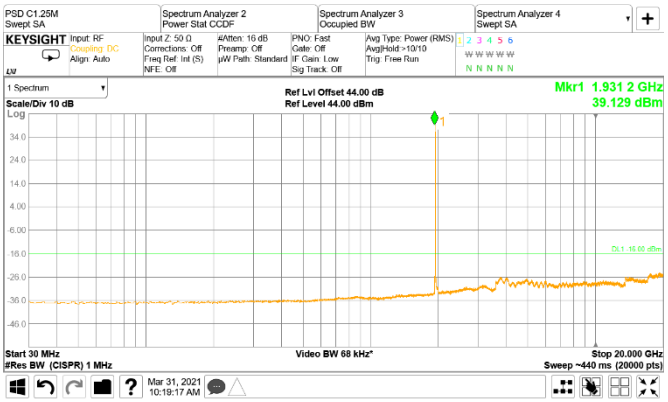


Figure 8.3-13: *Conducted spurious emissions of CDMA and LTE 10 MHz on low channel, two-carrier operation, antenna port A*

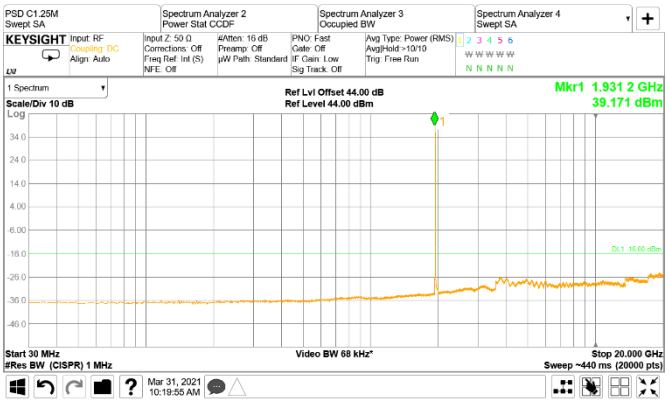


Figure 8.3-14: *Conducted spurious emissions of CDMA and LTE 10 MHz on low channel, two-carrier operation, antenna port B*

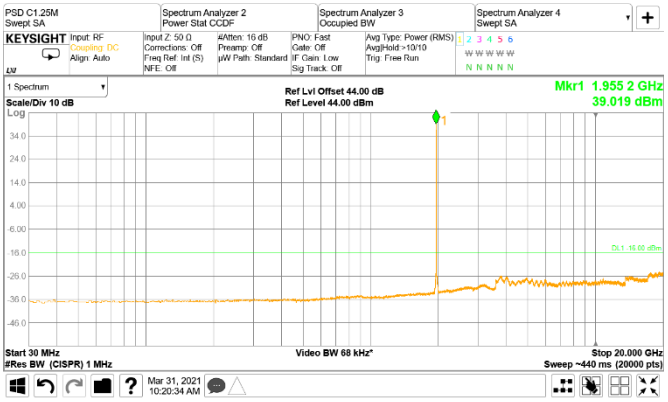


Figure 8.3-15: *Conducted spurious emissions of CDMA and LTE 10 MHz on mid channel, two-carrier operation, antenna port A*

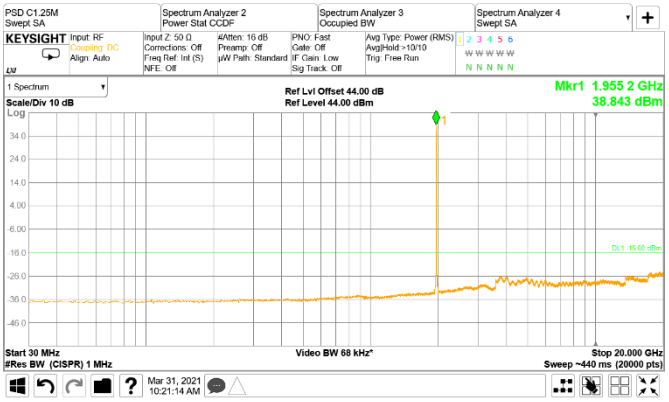


Figure 8.3-16: *Conducted spurious emissions of CDMA and LTE 10 MHz on mid channel, two-carrier operation, antenna port B*

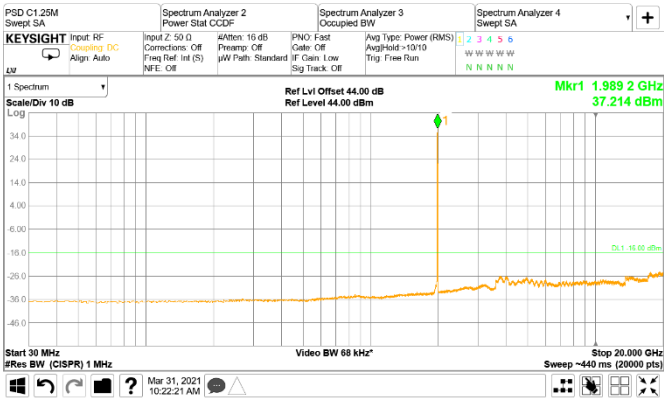


Figure 8.3-17: *Conducted spurious emissions of CDMA and LTE 10 MHz on top channel, two-carrier operation, antenna port A*

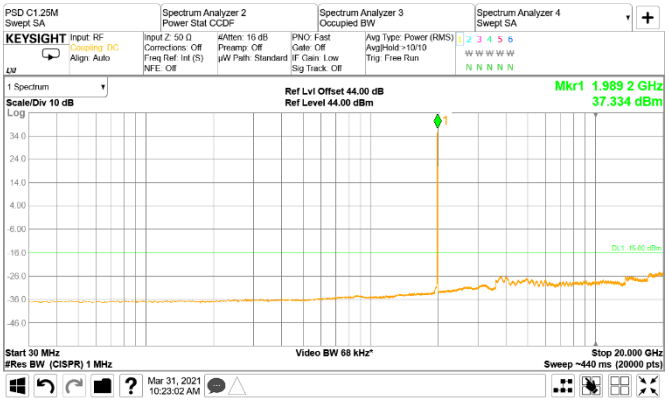


Figure 8.3-18: *Conducted spurious emissions of CDMA and LTE 10 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

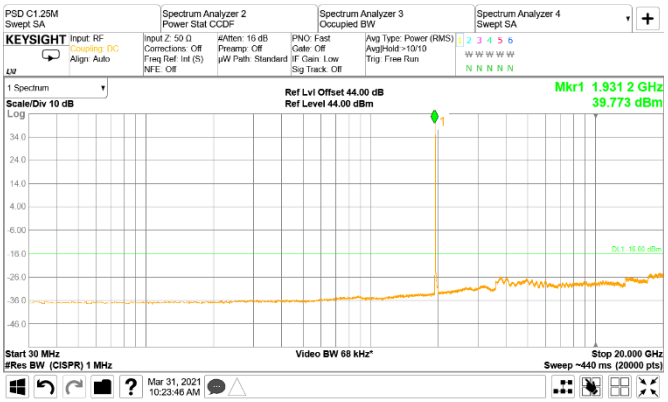


Figure 8.3-19: *Conducted spurious emissions of CDMA and LTE 15 MHz on low channel, two-carrier operation, antenna port A*

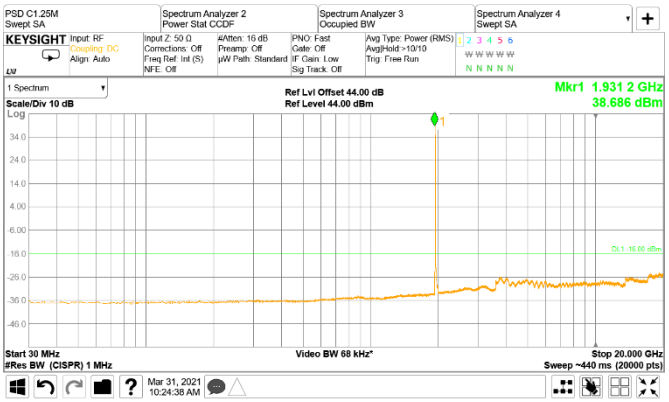


Figure 8.3-20: *Conducted spurious emissions of CDMA and LTE 15 MHz on low channel, two-carrier operation, antenna port B*

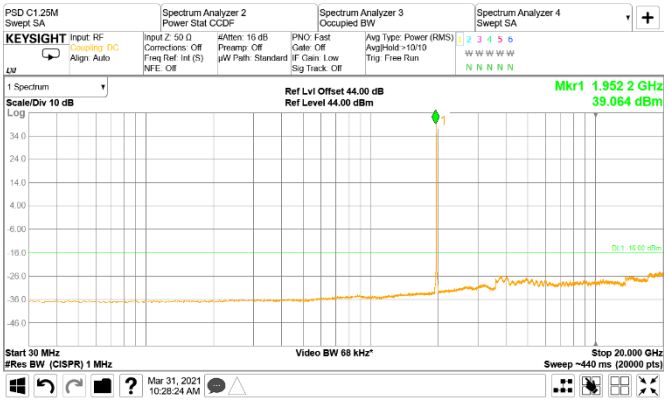


Figure 8.3-21: *Conducted spurious emissions of CDMA and LTE 15 MHz on mid channel, two-carrier operation, antenna port A*

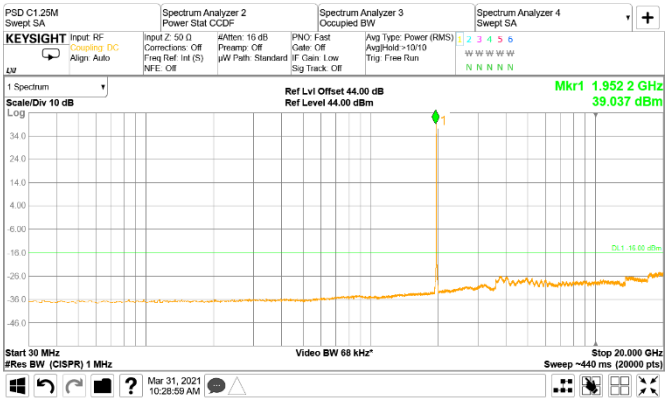


Figure 8.3-22: *Conducted spurious emissions of CDMA and LTE 15 MHz on mid channel, two-carrier operation, antenna port B*

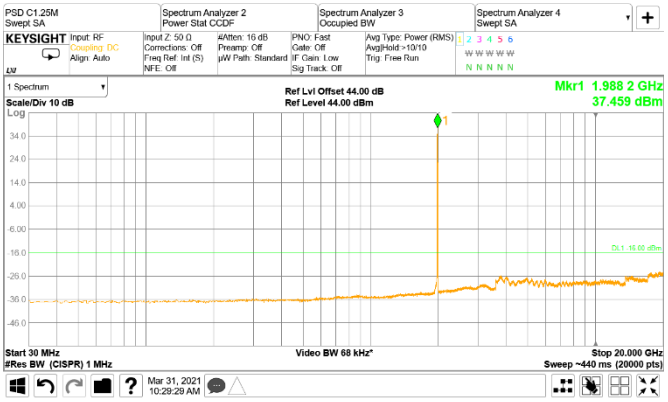


Figure 8.3-23: *Conducted spurious emissions of CDMA and LTE 15 MHz on top channel, two-carrier operation, antenna port A*

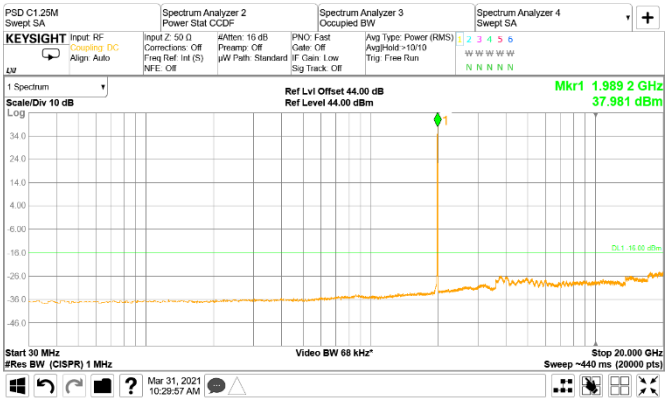


Figure 8.3-24: *Conducted spurious emissions of CDMA and LTE 15 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

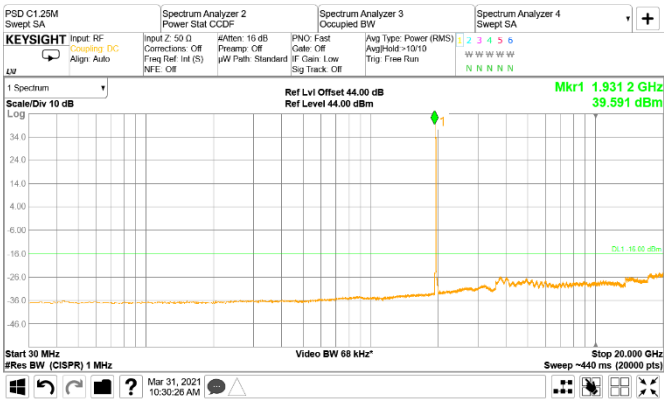


Figure 8.3-25: *Conducted spurious emissions of CDMA and LTE 20 MHz on low channel, two-carrier operation, antenna port A*

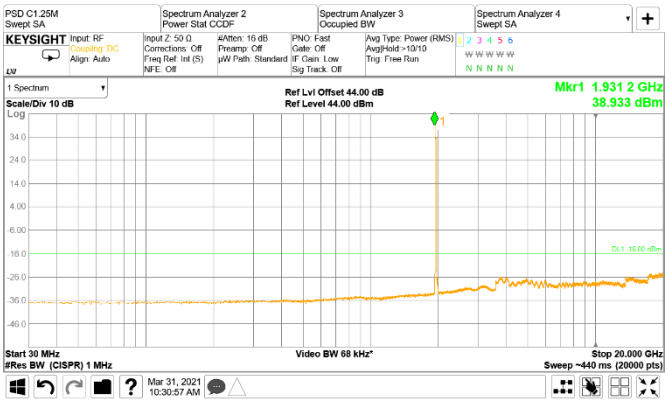


Figure 8.3-26: *Conducted spurious emissions of CDMA and LTE 20 MHz on low channel, two-carrier operation, antenna port B*

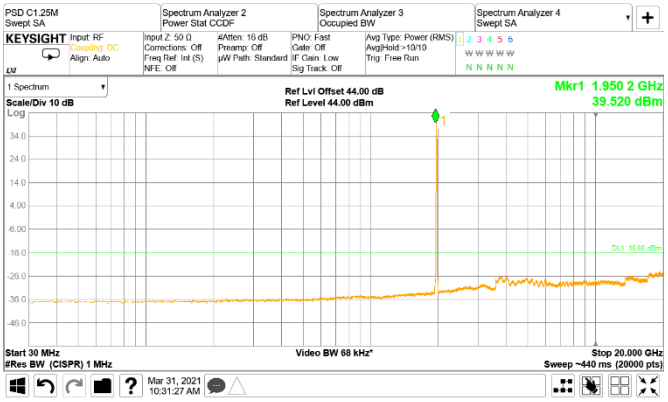


Figure 8.3-27: *Conducted spurious emissions of CDMA and LTE 20 MHz on mid channel, two-carrier operation, antenna port A*

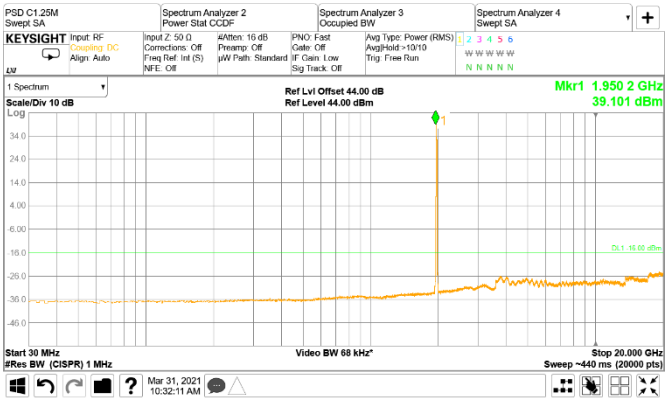


Figure 8.3-28: *Conducted spurious emissions of CDMA and LTE 20 MHz on mid channel, two-carrier operation, antenna port B*

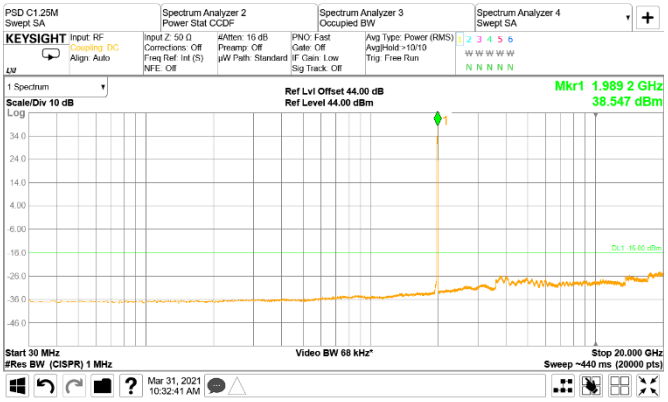


Figure 8.3-29: *Conducted spurious emissions of CDMA and LTE 20 MHz on top channel, two-carrier operation, antenna port A*

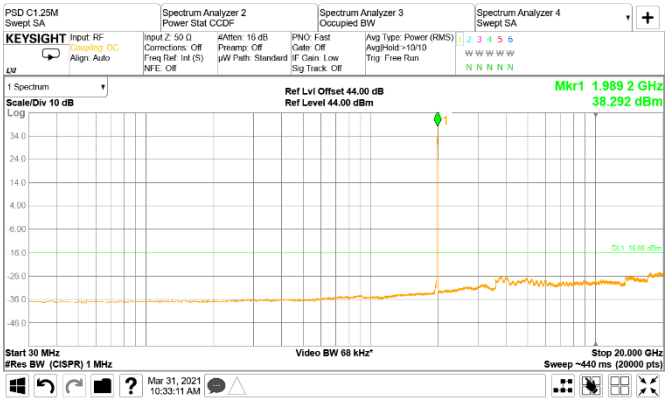


Figure 8.3-30: *Conducted spurious emissions of CDMA and LTE 20 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

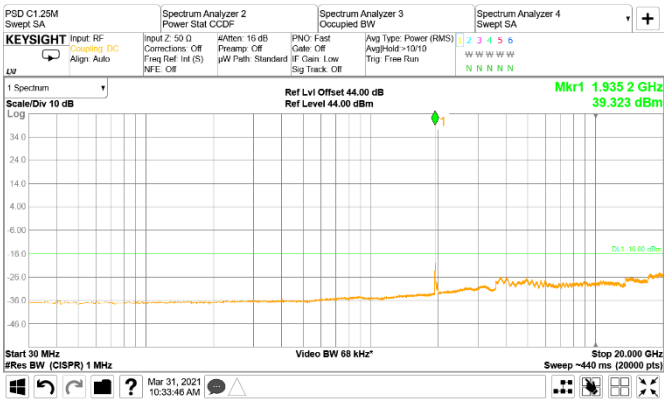


Figure 8.3-31: *Conducted spurious emissions of CDMA and NR 5 MHz on low channel, two-carrier operation, antenna port A*

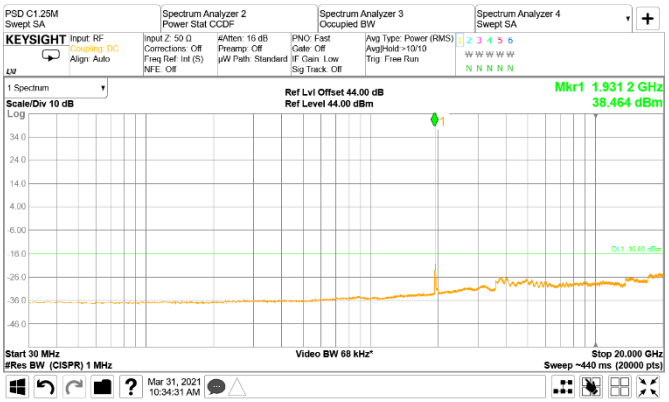


Figure 8.3-32: *Conducted spurious emissions of CDMA and NR 5 MHz on low channel, two-carrier operation, antenna port B*

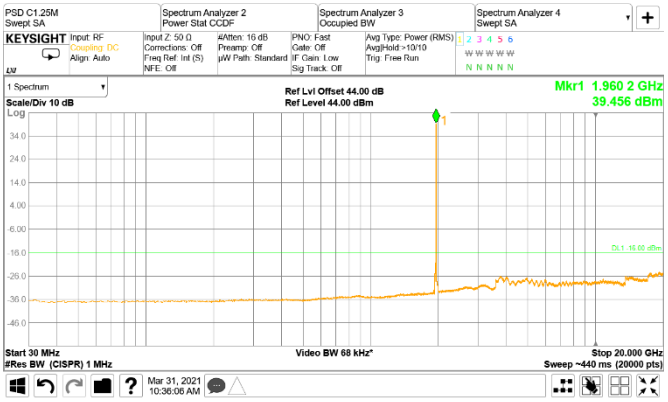


Figure 8.3-33: *Conducted spurious emissions of CDMA and NR 5 MHz on mid channel, two-carrier operation, antenna port A*

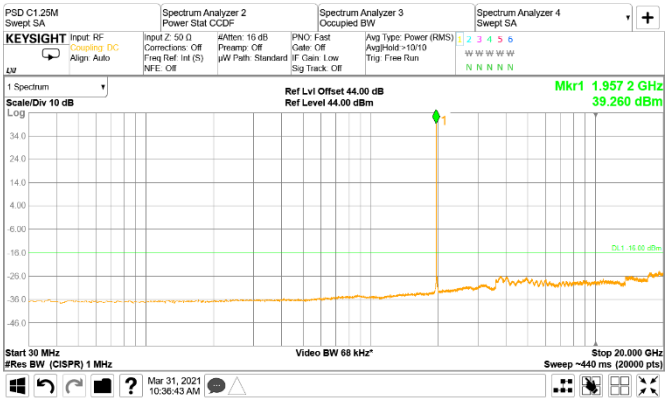


Figure 8.3-34: *Conducted spurious emissions of CDMA and NR 5 MHz on mid channel, two-carrier operation, antenna port B*

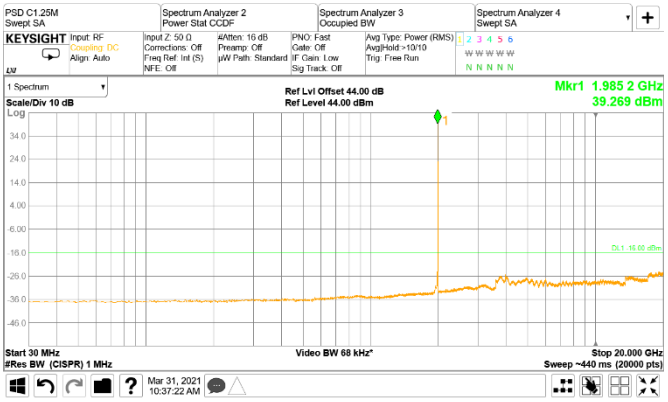


Figure 8.3-35: *Conducted spurious emissions of CDMA and NR 5 MHz on top channel, two-carrier operation, antenna port A*

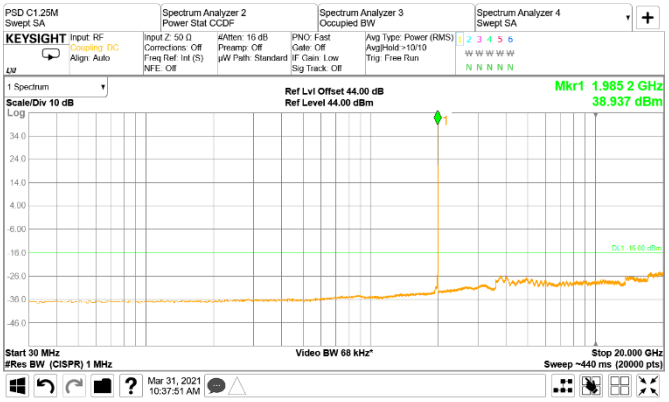


Figure 8.3-36: *Conducted spurious emissions of CDMA and NR 5 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

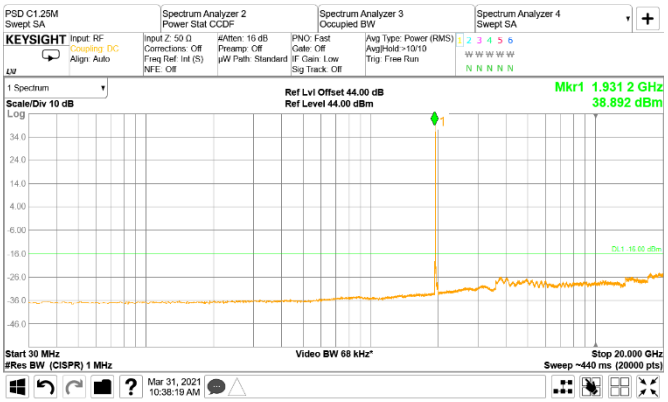


Figure 8.3-37: *Conducted spurious emissions of CDMA and NR 10 MHz on low channel, two-carrier operation, antenna port A*

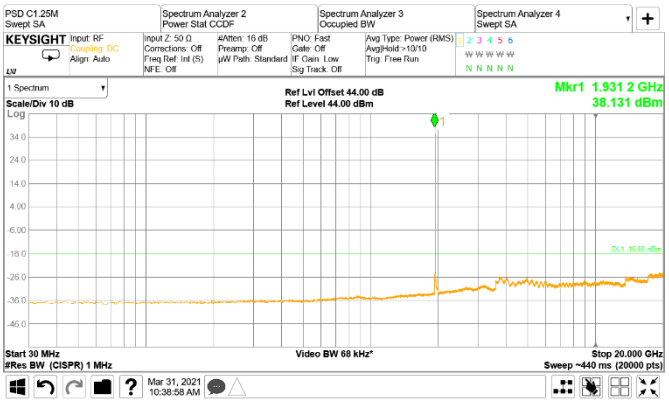


Figure 8.3-38: *Conducted spurious emissions of CDMA and NR 10 MHz on low channel, two-carrier operation, antenna port B*

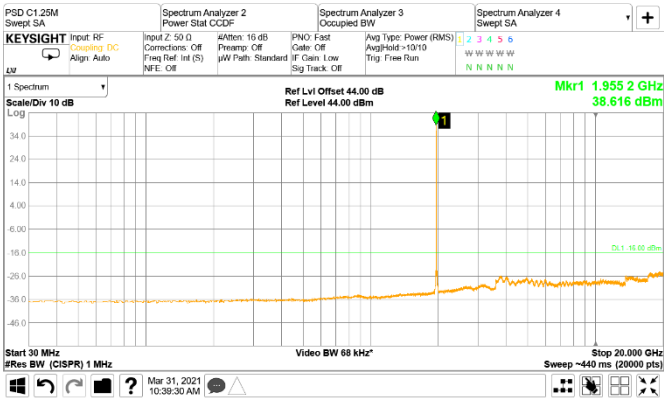


Figure 8.3-39: *Conducted spurious emissions of CDMA and NR 10 MHz on mid channel, two-carrier operation, antenna port A*

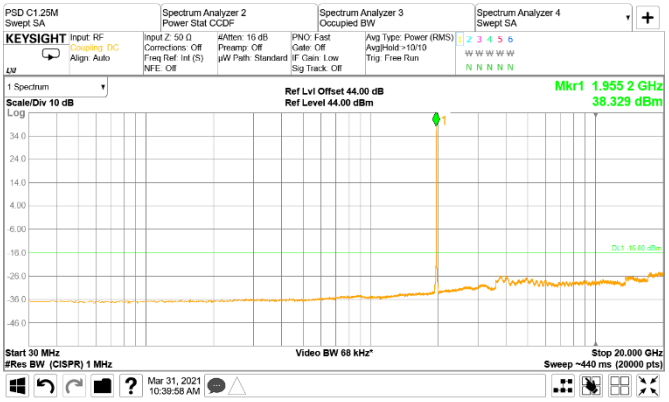


Figure 8.3-40: *Conducted spurious emissions of CDMA and NR 10 MHz on mid channel, two-carrier operation, antenna port B*

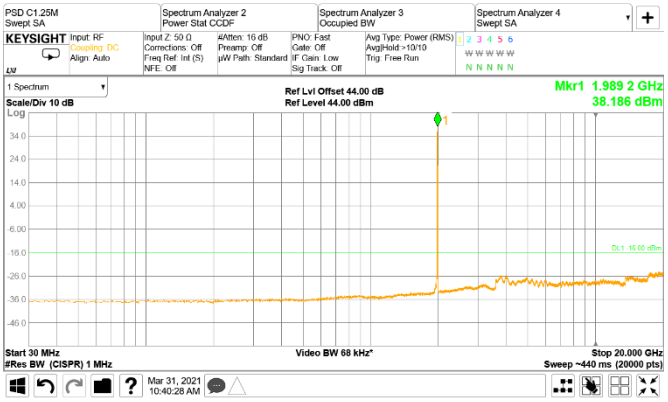


Figure 8.3-41: *Conducted spurious emissions of CDMA and NR 10 MHz on top channel, two-carrier operation, antenna port A*

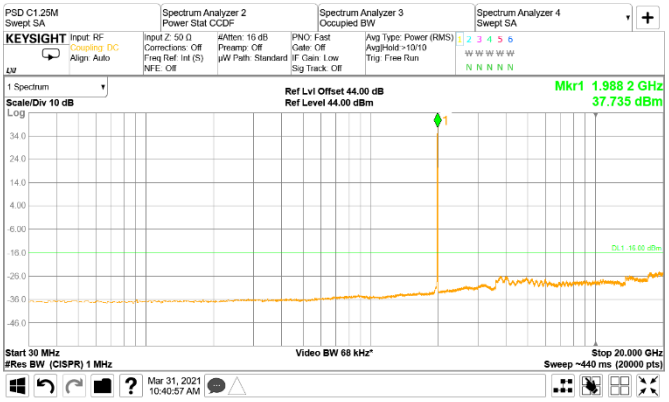


Figure 8.3-42: *Conducted spurious emissions of CDMA and NR 10 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

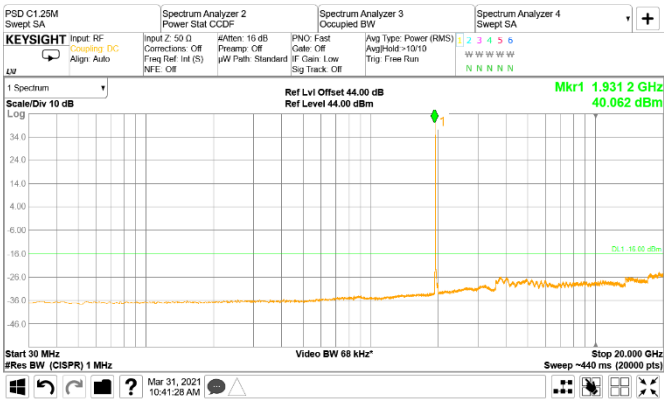


Figure 8.3-43: *Conducted spurious emissions of CDMA and NR 15 MHz on low channel, two-carrier operation, antenna port A*

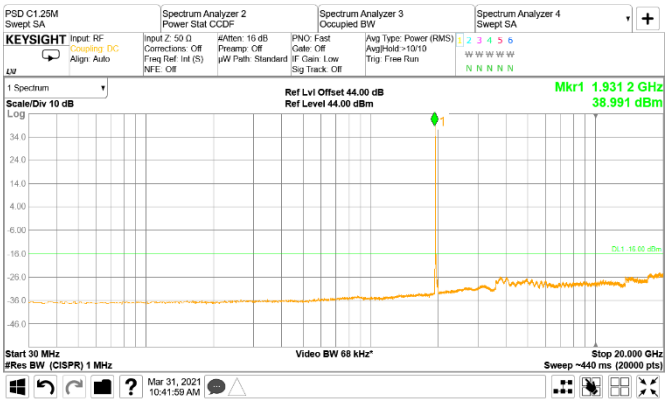


Figure 8.3-44: *Conducted spurious emissions of CDMA and NR 15 MHz on low channel, two-carrier operation, antenna port B*

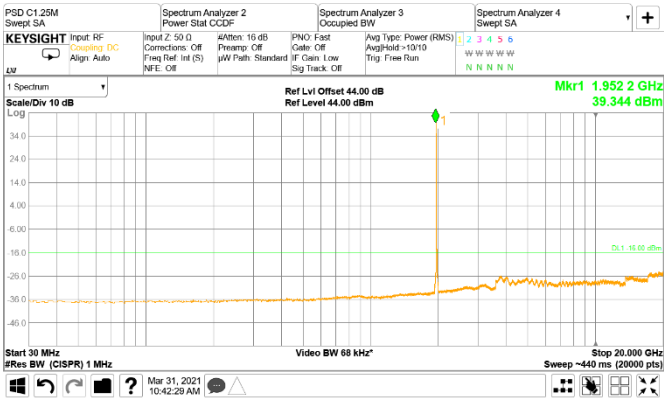


Figure 8.3-45: *Conducted spurious emissions of CDMA and NR 15 MHz on mid channel, two-carrier operation, antenna port A*

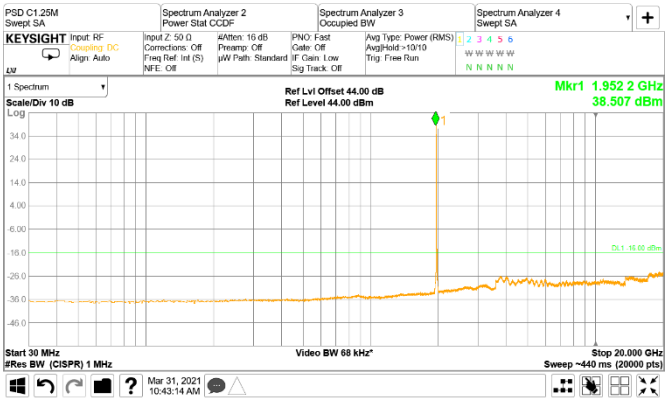


Figure 8.3-46: *Conducted spurious emissions of CDMA and NR 15 MHz on mid channel, two-carrier operation, antenna port B*

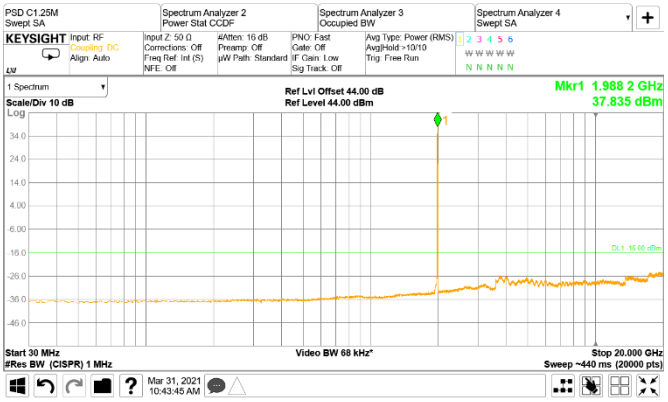


Figure 8.3-47: *Conducted spurious emissions of CDMA and NR 15 MHz on top channel, two-carrier operation, antenna port A*

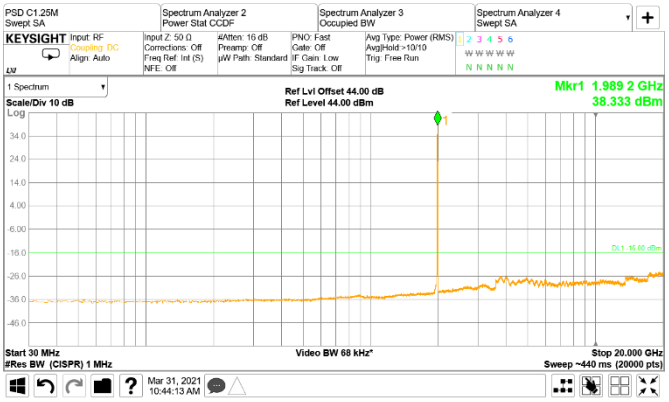


Figure 8.3-48: *Conducted spurious emissions of CDMA and NR 15 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

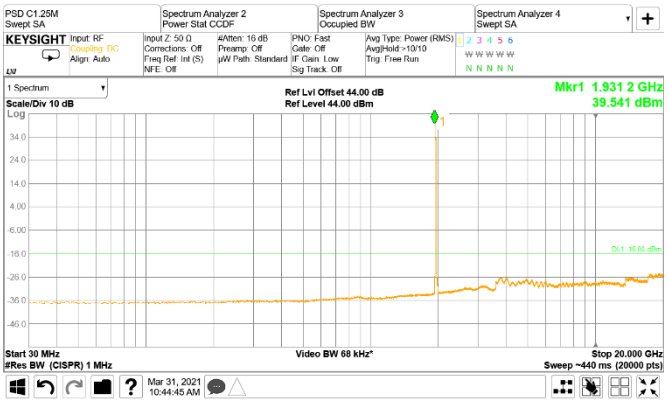


Figure 8.3-49: *Conducted spurious emissions of CDMA and NR 20 MHz on low channel, two-carrier operation, antenna port A*

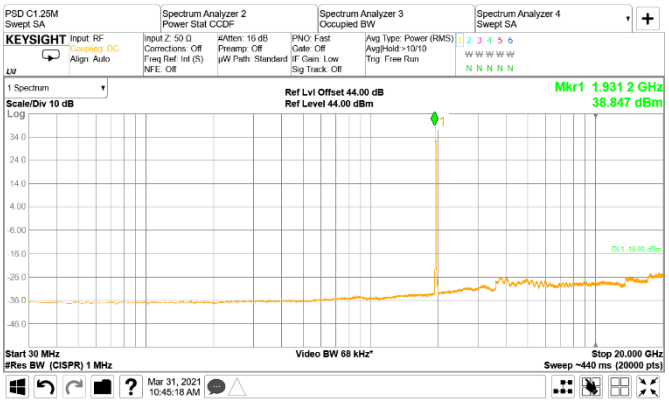


Figure 8.3-50: *Conducted spurious emissions of CDMA and NR 20 MHz on low channel, two-carrier operation, antenna port B*

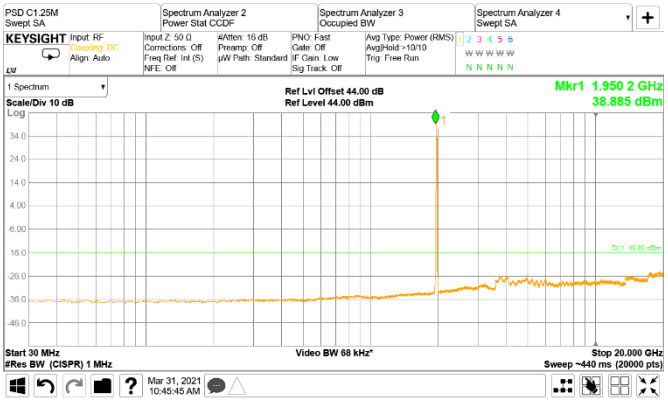


Figure 8.3-51: *Conducted spurious emissions of CDMA and NR 20 MHz on mid channel, two-carrier operation, antenna port A*

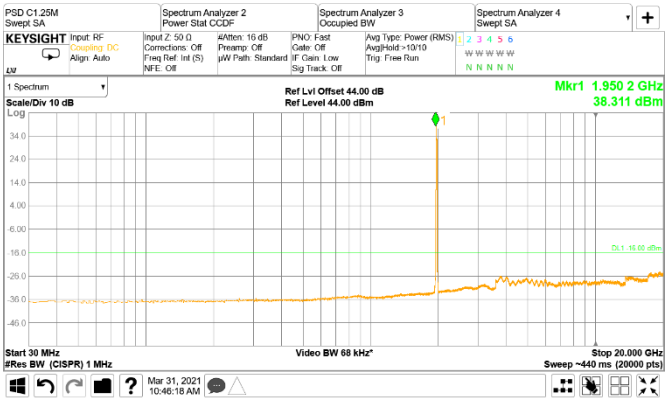


Figure 8.3-52: *Conducted spurious emissions of CDMA and NR 20 MHz on mid channel, two-carrier operation, antenna port B*

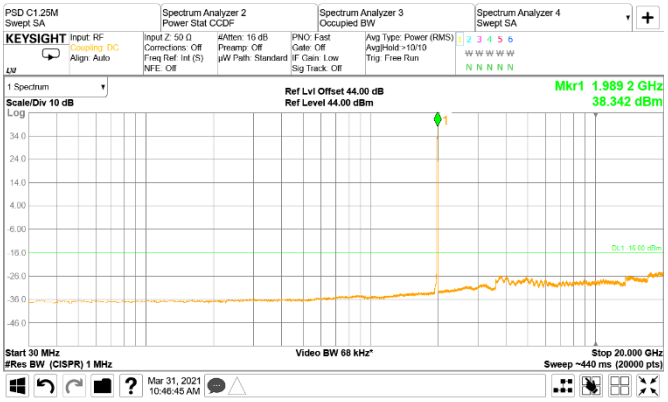


Figure 8.3-53: *Conducted spurious emissions of CDMA and NR 20 MHz on top channel, two-carrier operation, antenna port A*

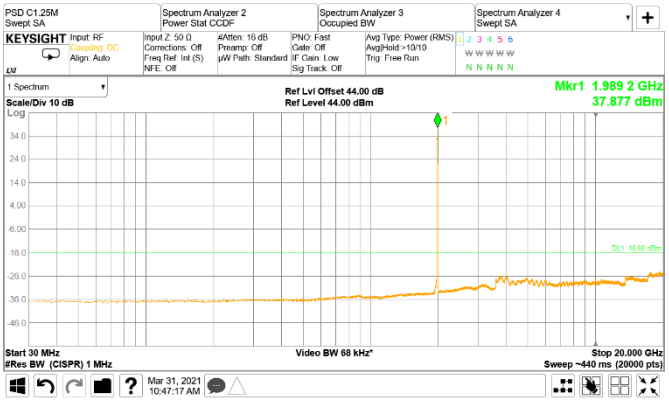


Figure 8.3-54: *Conducted spurious emissions of CDMA and NR 20 MHz on top channel, two-carrier operation, antenna port B*

Test data, continued

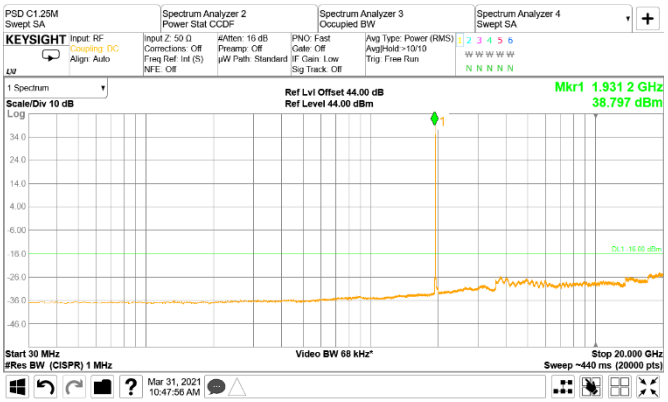


Figure 8.3-55: *Conducted spurious emissions of CDMA, LTE5 MHz and NR 5 MHz on low channel, three-carrier operation, antenna port A*

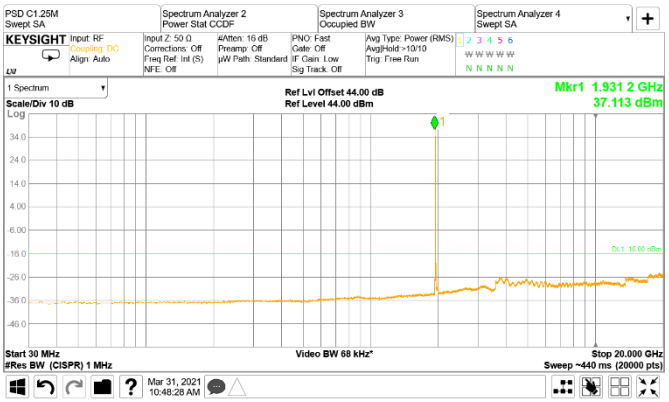


Figure 8.3-56: *Conducted spurious emissions of CDMA, LTE5 MHz and NR 5 MHz on low channel, three-carrier operation, antenna port B*

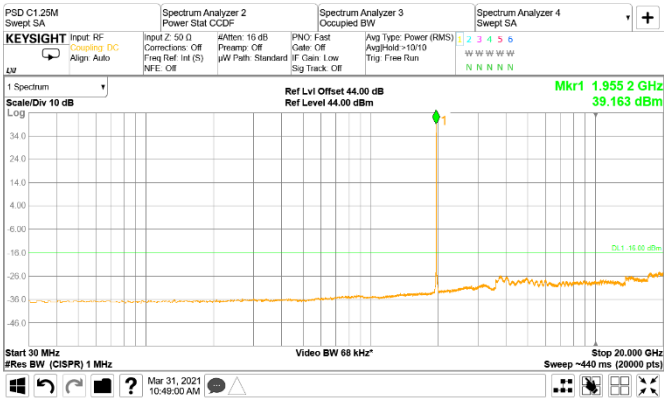


Figure 8.3-57: *Conducted spurious emissions of CDMA, LTE5 MHz and NR 5 MHz on mid channel, three-carrier operation, antenna port A*

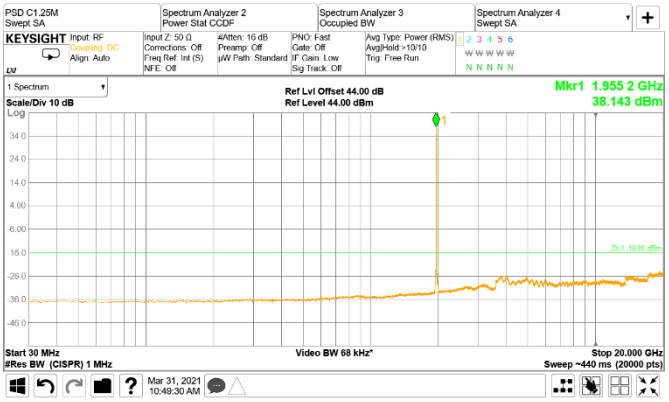


Figure 8.3-58: *Conducted spurious emissions of CDMA, LTE5 MHz and NR 5 MHz on mid channel, three-carrier operation, antenna port B*

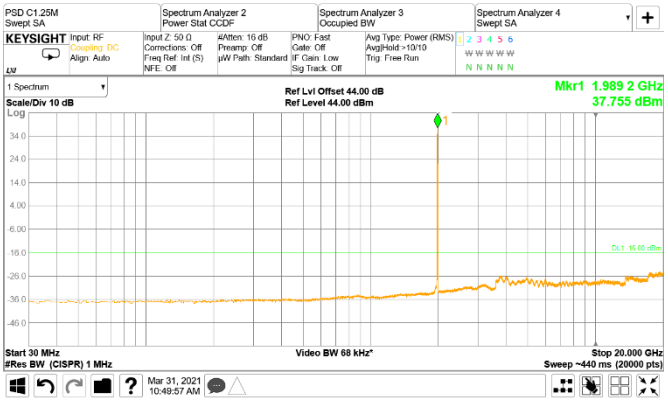


Figure 8.3-59: *Conducted spurious emissions of CDMA, LTE5 MHz and NR 5 MHz on top channel, three-carrier operation, antenna port A*

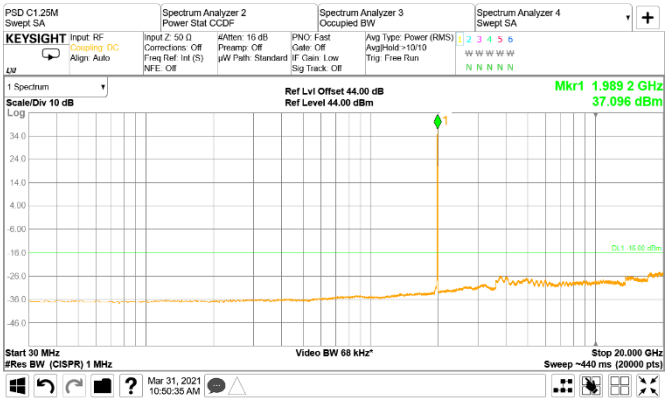


Figure 8.3-60: *Conducted spurious emissions of CDMA, LTE5 MHz and NR 5 MHz on top channel, three-carrier operation, antenna port B*