DEKRA

ISED CABid: ES1909 Lab. Company Number: 4621A

Test Report No: 77595RRF.001

Partial Test Report USA FCC Part 22, Part 24, Part 27 CANADA RSS-132, RSS-133, RSS-139, RSS-199

(*) Identification of item tested	CPAP Device
(*) Trademark	ResMed
(*) Model and/or type reference	28330
(*) Derived model not tested	28541, 28542, 28405
Other identification of the product	FCC ID: 2ACHL-AIR104GU IC: 9103A-AIR104GU
(*) Features	4G, 3G, 2G HW version: R379-7135 SW version: SX558
Applicant	ResMed Pty Ltd 1 Elizabeth Macarthur Drive, Bella Vista, NSW, 2153, Australia
Test method requested, standard	USA FCC Part 22 (10-1-21 Edition). USA FCC Part 24 (10-1-21 Edition). USA FCC Part 27 (10-1-21 Edition). CANADA RSS-132 Issue 4, January 2023. CANADA RSS-133 Issue 6, January 2018 Amendment 1. CANADA RSS-139 Issue 4 September 2022, Amendment October 2022. CANADA RSS-199 Issue 3, December 2016. ANSI C63.26-2015. KDB 971168 D01 Power Meas License Digital Systems v03r01, April. 2018.
Approved by (name / position & signature)	José Manuel Gómez Galván EMC Consumer & RF Lab. Manager
Date of issue	2024-02-22
Report template No	FDT08_24 (*) "Data provided by the client"





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Competences and guarantees

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DEKRA Testing and Certification is an FCC-recognized accredited testing laboratory with appropriate scope of accreditation that covers the performed tests in this report.

DEKRA Testing and Certification is an ISED-recognized accredited testing laboratory, CABid: ES1909, Company Number: 4621A, with the appropriate scope of accreditation that covers the performed tests in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification S.A.U. has a calibration and maintenance program for its measurement equipment.

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The results presented in this Test Report apply only to the particular item under test established in this document.

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General conditions

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Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification S.A.U. internal document PODT000.

Data provided by the client

The following data has been provided by the client:

- 1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
- 2. The sample of the model 28330 is a CPAP device with integrated cellular connectivity.
- 3. Derived models not tested. These models have been declared by the supplier of the sample as being the same as the model under test.

DEKRA Testing and Certification, S.A.U. Parque Tecnológico de Andalucía, c/ Severo Ochoa nº 2 · 29590 Campanillas · Málaga · España C.I.F. A29507456





Date: 05-Feb-2024

DECLARATION OF EQUIVALENCE

This document declares that the following designated products are equivalent to the u under test **28330**.

Model Name / Product Code	Marketing Name
28541	AirCurve 10 ST-A
28542	AirCurve 10 ST-A
28405	AirCurve 10 ST-A

All the above stated products have the same cellular hardware and firmware.

Applicant:

Company Name: ResMed Pty Ltd Address: 1 Elizabeth Macarthur Drive, Bella Vista NSW 2153 Australia

By,

Christopher Jenkins Title: Manager – Systems Engineering Company: ResMed Pty Ltd Telephone: +61 2 8884 1517 e-mail: <u>Christopher.jenkins@resmed.com.au</u>

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ResMed.com

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results.



Usage of samples

Samples undergoing test have been selected by: The client.

- Sample S/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
77595B/007	CPAP Device	28330	22232884595	13-12-2023
77595B/010	AC/DC Adapter	370006	-	13-12-2023
77595B/011	Power Cord AC/DC (USA)	-	-	13-12-2023

Sample S/01 has undergone the following test(s): The radiated tests indicated in Appendix A.

Test sample description

Ports	Cable						
	Port name and description	Specified max	Attao during	ched g test	Shielde	d Co	to
	Power (PSIL 370006)	iengui [m]	Σ	1		μe	
Supplementary information to the			Ľ	2			
ports	-						
Rated power supply:				Ref	ference p	oles	
	voltage and Frequenc	y I	L1	L2	L3	N	PE
	AC: 100–240V, 1.0–1.5A	50–60Hz					
	AC: 115V, 400H (aircraft)	lz 1.5A,					
	DC: 24V, 90W (DC-DC Converter)			•			
Rated Power:	53W (57VA) - Typical, 104W (108VA) – Peak						
Clock frequencies:	N/A						
Other parameters:	-						
Software version:	SX558						
Hardware version:	R379-7135						
Dimensions in cm (W x H x D) :	255 mm X 116 mm X 1	50 mm					
Mounting position	Table top equipment						
	Wall/Ceiling mounted equipment						
	Floor standing equipment						
	Hand-held equipment						
	☐ Other:			_			
Modules/parts:	Module/parts of test item Type Manufactu		acturer				
	Cellular Module (4G, 3	G, 2G)		R600	4-)1	u-blox	
Accessories (not part of the test	Description			Туре		Manufa	acturer
item):	-			-		-	
Documents as provided by the	Description File name Issue date		late				
applicant	-			-		-	

⁽³⁾Only for Medical Equipment



Identification of the client

ResMed Pty Ltd

1 Elizabeth Macarthur Drive, Bella Vista, NSW, 2153, Australia

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2023-12-19
Date (finish)	2024-02-08

Document history

Report number	Date	Description
77595RRF.001	2024-02-22	First release.

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 75 %

In the semianechoic chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 75 %



Remarks and comments

The tests have been performed by the technical personnel: Sergio Carrasco and Pablo Redondo.

Used instrumentation:

Control No.	Equipment	
06496	Horn Antenna 1-18 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9120 D	2026-12
03541	Hybrid Bilog Antenna 30MHz-6GHz SUNOL SCIENCES CORPORATION JB6	2024-11
03783	RF Preamplifier G>30dB, 1-18GHz BONN ELEKTRONIK BLMA 0118-3A	2025-02
06144	RF Preamplifier 40 dB, 10 MHz - 6 GHz BONN ELEKTRONIK BLNA 0160-01N	2024-07
04716	Signal and Spectrum Analyzer 2 Hz - 50 GHz ROHDE AND SCHWARZ FSW50	2024-08
06791	Semianechoic Absorber Lined Chamber ETS LINDGREN FACT 3 200 STP	N/A
06792	Shielded Room ETS LINDGREN S101	N/A
04804	Wideband Radio Communication Tester ROHDE AND SCHWARZ CMW500	2024-03
07760	Digital Multimeter FLUKE 175	2024-11
04609	AC Power Supply CHROMA 6490	N/A
04657	Horn Antenna 18-40 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9170	2026-06
08856	Pre-Amplifier G>30dB 17-40GHz BONN ELEKTRONIK BLMA 1840-4A	2025-01
09227	Wideband Radio Communication Tester ROHDE AND SCHWARZ CMW500	2024-07
04848	EMC/RF Testing SW ROHDE AND SCHWARZ EMC32	N/A



Testing verdicts

Not applicable:	N/A
Pass:	Р
Fail:	F
Not measured:	N/M

Summary

FCC 22 / RSS-132 PARAGRAPH					
Requirement – Test case	Verdict	Remark			
Clause 22.913/RSS-132 Clause 5.4: RF Output Power	N/M	(1)			
Clause 2.1047/RSS-132 Clause 5.2: Modulation Characteristics	N/M	(1)			
Clause 22.355/RSS-132 Clause 5.3: Frequency Stability	N/M	(1)			
Clause 2.1049: Occupied Bandwidth	N/M	(1)			
Clause 22.917/RSS-132 Clause 5.5: Spurious Emissions at Antenna Terminals	N/M	(1)			
Clause 22.917/RSS-132 Clause 5.5: Radiated Emissions	P*	(2)			
Supplementary information and remarks:					
(1) Test not requested.					
(2) Tests performed only in the worst channel					

FCC 24 / RSS-133 PARAGRAPH						
Requirement – Test case	Verdict	Remark				
Clause 24.232/RSS-133 Clause 6.4: RF output power	N/M	(1)				
Clause 2.1047/RSS-133 Clause 6.2: Modulation characteristics	N/M	(1)				
Clause 24.235/RSS-133 Clause 6.3: Frequency stability	N/M	(1)				
Clause 2.1049: Occupied Bandwidth	N/M	(1)				
Clause 24.238/RSS-133 Clause 6.5: Spurious emissions at antenna terminals	N/M	(1)				
Clause 24.238/RSS-133 Clause 6.5: Radiated emissions	P*	(2)				
Supplementary information and remarks:						
(1) Test not requested.						
(2) Tests performed only in the worst channel						



FCC 27 / RSS-199 PARAGRAPH						
Requirement – Test case	Verdict	Remark				
FCC 27.50 / RSS-199 4.4.	RF Output Power	N/M	(1)			
FCC 2.1047 / RSS-199 4.1.	Modulation Characteristics	N/M	(1)			
FCC 27.54 / RSS-199 4.3.	Frequency Stability	N/M	(1)			
FCC 2.1049	Occupied Bandwidth	N/M	(1)			
FCC 27.53 / RSS-199 4.5	Spurious Emissions at Antenna Terminals	N/M	(1)			
FCC 27.53 / RSS-199 4.5	Radiated Emissions	P*	(2)			
Supplementary information and	remarks:					
(1) Test not requested.						

(2) Tests performed only in the worst channel



Appendix A: Test results for FCC 22, 24, 27 / RSS-132, RSS-133, RSS-199



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TEST CONDITIONS

(*): Declared by the Applicant.

POWER SUPPLY (*):

Vnormal: 24 Vdc Type of Power Supply: AC-DC Adapter

ANTENNA GAIN (*):

Bands	Gain (dBi)	Туре
2G 850	1.71	Taoglas (Ceramic SMT) antenna integrated onto the PCBA
2G 1900	3.03	Taoglas (Ceramic SMT) antenna integrated onto the PCBA
LTE 41	2.69	Taoglas (Ceramic SMT) antenna integrated onto the PCBA

TEST FREQUENCIES (*):

The device supports bands for 2G, 3G and LTE. The testing was requested only for the worst case accordingly to a preliminary test of the RF Output power.

The worst case in the range <1GHz is:

2G Band 850 MHz:

GPRS and EDGE modulations:

Low Channel (128):	824.2 MHz
Middle Channel (190):	836.6 MHz
High Channel (251):	848.8 MHz

The worst in the range between 1GHz and 2GHz is:

2G Band 1900 MHz:

GPRS and EDGE modulations:

Low Channel (512):	1850.2 MHz
Middle Channel (662):	1880.2 MHz
High Channel (810):	1909.8 MHz

The worst in the range > 2GHz is:

LTE Band 41. QPSK and 16QAM modulations:

	Channel (Frequency)BW = 5 MHzBW = 10 MHzBW = 15 MHzBW = 20 MHz							
Low	39675	39700	39725	39750				
LOW	(2498.50 MHz)	(2501.00 MHz)	(2503.50 MHz)	(2506.00 MHz)				
Middle	40620	40620	40620	40620				
	(2593.00 MHz)	(2593.00 MHz)	(2593.00 MHz)	(2593.00 MHz)				
المعام	41565	41540	41515	41490				
підп	(2687.50 MHz)	(2685.00 MHz)	(2682.50 MHz)	(2680.00 MHz)				



Radiated emissions

Limits

1. 2G 850. FCC § 2.1051 and § 22.917 / RSS-132 5.5.

FCC § 2.1051 and § 22.917:

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 $43 + 10 \log(P) dB$.

Compliance with these rules is based on the use of measurement instrumentation employing a reference bandwidth as follows:

In the spectrum below 1 GHz, instrumentation should employ a reference bandwidth of 100 kHz or greater. 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.

RSS-132. 5.5:

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

- i. In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 P (watts).
- After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 P (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

2. 2G 1900. FCC § 2.1051 and § 24.238 / RSS-133 6.5.

FCC §2.1051 and §24.238 / RSS-133 6.5.

The power of emissions shall be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P) dB$. P in watts.

Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater.

At Po transmitting power, the specified minimum attenuation becomes 43+10 log (Po), and the level in dBm relative to Po becomes:

Po (dBm) - [43 + 10 log (Po in mW) - 30] = -13 dBm

3. LTE Band 41. FCC §2.1053 & §27.53 (m) (4) / RSS-199 Clause 4.5 (b).

FCC §27.53 (m) (4):

For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts in accordance with the standards below. If a licensee has multiple contiguous channels, out-of-band emissions shall be measured from the upper and lower edges of the contiguous channels.

(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P) dB$ on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P) dB$ on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P) dB$ on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service



licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

RSS-199 Clause 4.5 (b):

In the 1 MHz band immediately outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.

Equipment shall comply with the following unwanted emission limits:

(b) for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:

- i. 40 + 10 log10 p from the channel edges to 5 MHz away
- ii. 43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and
- iii. 55 + 10 log10 p at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than 43 + 10 log10 p on all frequencies between 2490.5 MHz and 2496 MHz, and 55 + 10 log10 p at or below 2490.5 MHz.

In (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

LTE Band 41 MEASUREMENT LIMIT:

On all frequencies between the channel edge and 5 megahertz from the channel edge:

At Po transmitting power, the specified minimum attenuation becomes 40+10 log (Po), and the level in dBm relative Po becomes:

Po (dBm) – [40 + 10 log (Po in mwatts) - 30] = -10 dBm

On all frequencies between 5 megahertz and X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section; and between 2490.5 MHz and 2496 MHz:

At Po transmitting power, the specified minimum attenuation becomes 43+10 log (Po), and the level in dBm relative Po becomes:

Po (dBm) – [43 + 10 log (Po in mwatts) - 30] = -13 dBm

On all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section; and below 2490.5 MHz: At Po transmitting power, the specified minimum attenuation becomes 55+10 log (Po), and the level in dBm relative Po becomes:

Po (dBm) - [55 + 10 log (Po in mwatts) - 30] = -25 dBm

Method

The measurement was performed with the EUT inside an anechoic chamber. The spectrum was scanned from 30 MHz to at least the 10th harmonic of the highest frequency generated within the equipment.

The EUT was placed on a 1 meter high non-conductive stand at a 3 meter distance from the measuring antenna. Detected emissions were maximized at each frequency by rotating the EUT and adjusting the height and polarization of the measuring antenna. The maximum meter reading was recorded.

Measurement Limit:

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB, P in watts.



At Po transmitting power, the specified minimum attenuation becomes 43+10log (Po), and the level in dBm relative Po becomes:

Po (dBm) – [43 + 10 log (Po in mwatts) - 30] = - 13 dBm

The maximum field strength (dBµV/m) of each detected emission at less than 20 dB respect to the limit is converted to an equivalent EIRP level (dBm) according to ANSI C63.26 with the formula:

EIRP (dBm) = E (dB μ V/m) + 20 log(D) - 104.8; where D is the measurement distance (in the far field region) in m. D = 3 m

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Test Setup

Radiated measurements below 1 GHz:



Radiated measurements above 1 GHz:





Results

2G Band 850 MHz:

GPRS and EDGE modulations:

A preliminary scan determined the GPRS modulation as the worst case. The following tables and plots show the results for the worst case modulation.

- LOW CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies at less than 20 dB below the limit:

Spurious frequency (MHz)	E.I.R.P (dBm)	Polarization	Detector
551.547	-31.59	V	Peak
718.954	-29.92	V	Peak
868.916	-25.45	V	Peak
672.338	-30.68	Н	Peak
985.481	-26.7	Н	Peak

Frequency range 1 - 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

Measurement uncertainty (dB): $<\pm$ 5.03 for f \geq 30 MHz up to 1 GHz $<\pm$ 4.32 for f \geq 1 GHz up to 8.5 GHz

Verdict: PASS



FREQUENCY RANGE 30 MHz - 1 GHz:

- LOW CHANNEL:

									(*)
MultiView	Receiver ×	Spectrum	×						
Ref Level 0.00 Att Input TDF Input2 "Antei	0 dBm Offset 2.15 dB 10 dB ● SWT 1s 2 DC PS Off nna 3541 PRA"."ATT 3D	RBW 1 MHz VBW 3 MHz Mod Notch Off B"."CABLE 6707 8M"."	de Sweep CABLE 9122 3M"."Ca	able 9596 3M"				Frequency	515.0000000 MHz
1 Frequency Sv	weep				1	1			●1Pk View
									M3[1] -30.68 dBm
-10 dBm									672.3380 MHZ
	H1 -13.000 dBm								868.9190 MHz
-20 dBm								M1	M2
20 JD-						мз	1	and a start of the start of the	فالملاف أحسا والمعصر الاستريب والمحال
-30 UBM				Lassaithin a sait	والمتحمد والمتحم والمتحم المحداد والمرا	and a statistic first and an and it statistic			
40 dBm			A STATE OF THE OWNER						
N	and the second se								
-50 dBml									
-60 dBm									
-70 dBm									
70 ubiii									
-80 dBm									
-90 dBm									
30.0 MHz			30000 pts		ģ	97.0 MHz/	I	1	1.0 GHz
2 Marker Table						-		_	-
M1	Ref Irc	X-Value 868.919 MH7		26.28 dBm		Function		Function	Result
M2	1	985.466 MHz	-	26.70 dBm					
M3	1	672.338 MHz		30.68 dBm					Deft avel Dr.
						Measuring		11:01:2024	O O

10:27:13 11.01.2024

The peak above the limit is the carrier frequency.

FREQUENCY RANGE 1 - 8.5 GHz:

- LOW CHANNEL:

									
MultiView = F	Receiver ×	Spectrum	×						*
Ref Level -2.15 di • Att 10 Input 1	Bm ● I dB SWT 30 ms ● 1 DC PS On 1 C 400 DDE 2041 1015	RBW 1 MHz VBW 3 MHz Mode Notch Off	Sweep		1000 07000 JOAN	0102 204		Frequency 4	4.7500000 GHz
1 Frequency Swee	_6496_PIRE_3M , CAE :D	DLE_9184_2M , CADLE	_9613_9M , 6100_0	ADLE_IM , AMPLIFIC	ADUR_3783 , CABLE	_9123_3M			o 1Pk View
-10 dBm									
	H1 -13.000 dBm								
-20 dBm									
-30 dBm-									
-40 dBm									
							La constantina de la constante	مالحد فتسبيا بالالترب ملون وتصف	and a second second second second
-50 dBm						والمتلفان والساريقان والملون عروب والا	Page 1 - p. L 1994 - Andrew Constanting of the second	the local particle scale of the second scale of the second scale of the second scale of the second scale of the	
30 dbin				المطالبية ومعاركتها ووالمعرور والمرار		and the second se			
	1	مالار بطريقين بليريد	فللكني المجارية المستعل ومعاند الاسررادي						
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-70 dBm									
-90 d9m									
-00 UBM									
-90 dBm									
-100 dBm									
1.0 GHz	1	1	30000 pts		7	50.0 MHz/		1	8.5 GHz
						Measuring	-	21.12.2023 Ref I	Level RBW O O

05:36:24 21.12.2023



2G Band 1900 MHz:

GPRS and EDGE modulations:

A preliminary scan determined the GPRS modulation as the worst case. The following tables and plots show the results for GPRS modulation.

- MIDDLE CHANNEL:

Frequency range 30 MHz - 1 GHz:

No spurious signals were found at less than 20 dB below the limit.

Frequency range 1 - 18 GHz:

No spurious signals were found at less than 20 dB below the limit.

Frequency range 18 - 20 GHz:

No spurious signals were found at less than 20 dB below the limit.

	<±5.03 for f < 1GHz
Measurement uncertainty (dB)	<±4.32 for $f \ge 1$ GHz up to 17 GHz
	$\leq \pm 4.58$ for f ≥ 17 GHz up to 20 GHz

Verdict: PASS



FREQUENCY RANGE 30 MHz - 1 GHz:

- MIDDLE CHANNEL:

									\$
MultiView - F	Receiver ×	Spectrum	×						•
Ref Level 0.00 dE	m Offset 2.15 dB	RBW 1 MHz VBW 3 MHz Moo	de Sweep					Frequency 51	5 000000 MHz
Input 2 [TDF Input2 "Antenna	C PS Off 3541 PRA"."ATT 3DE	Notch Off "CABLE 6707 8M".	"CABLE 9122 3M"."(able 9596 3M"				frequency bit	
1 Frequency Swee	р	· · · · · · · · · · · · · · · · · · ·				1			o1Pk View
-10 dBm									
	H1 -13.000 dBm								
-20 dBm									
20 000									
-30 dBm-							lake with safe	and the second second second second	and the state of the
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40.40.0		Juli Maria	ومناور المعربا لاحمام الاليان		1900 Contraction of the second				
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-50 digm of the									
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-70 dBm									
-80 dBm-									
-90 dBm-									
30.0 MHz			30000 pts		ģ	97.0 MHz/			1.0 GHz
÷						Measuring	-	11.01.2024 Ref 1 10:10:51	evel RBW

10:10:51 11.01.2024

FREQUENCY RANGE 1 - 3 GHz:

- MIDDLE CHANNEL:

										
MultiView - F	Receiver ×	Spectrum	×							•
Ref Level -2.15 di Att 10 Input 1 TDF Input1 "ANTENA	Bm I B dB SWT 30 ms I DC PS On 1 6496 PIRE 3M"."CAE	RBW 1 MHz VBW 3 MHz Mode Notch Off BLE 9184 2M"."CABL	Sweep E 9613 9M"."AMPLIFI	CADOR	3783"."CABL	E 9123 3M"."ATENU	ADOR 10DB"		Frequency :	2.0000000 GHz
1 Frequency Swee	p					(●1Pk View
-10 dBm	H1 -13 000 dBm									
-20 dBm										
-30 dBm										
-40 dBm										
-50 dBm										
				فليعط وراقعها	un service sublide	والمتعالما ومعالمه والمتعاومة والمعالم	الالقام والطارية ويرجع ومقاولهم والإلجاز والمروحين	a trajectoria terrarili literarile	الله المحافي الماضية المحافية ومراقع الرابي التي محمولة المحافية المح	in the second
-60 dBm	a fan yw yw de Marinelle, yw ar fer fan fan her slân.				and a second at the second					
-70 dBm										
-80 dBm										
-90 dBm										
-100 dBm										
1.0 GHz			30000 pts			2	00.0 MHz/			3.0 GHz
~							- Measuring	-	21.12.2023 Ref	D O

05:49:43 21.12.2023

The peak above the limit is the carrier frequency.



FREQUENCY RANGE 3 - 18 GHz:

- MIDDLE CHANNEL:



13:15:57 21.12.2023

FREQUENCY RANGE 18 - 20 GHz:

- MIDDLE CHANNEL:

									
MultiView = F	Receiver ×	Spectrum	×						•
Ref Level 0.00 dB Att 0 Input 14	m ● RBV dB● SWT 1 s● VBV AC PS Off Not	V 1 MHz V 3 MHz ModelSw ch. Off	veep					Frequency 19	9.0000000 GHz
TDF Input1 "4657_A	NTENNA_EIRP_1'5m","	2478_CABLE_1M","PF	REAMPLIFIER BONN 88	56","6546_CABLE","7	287_17GHZ_HPF"				o 1Pk View
Threquency Swee	.р								O IFK VIEW
-10 dBm	H1 -13.000 dBm								
-20 dBm									
20 000									
-30 dBm									
-40 dBm									
50 dBm wet the lite of the						والمالية والمتنافية في محمد المراز المناب	ويستروا المراقاي والمتحاو فأطأنا الاستقار	ومراجع والمراجع والمراجع والمراجع والمراجع والمراجع	and data a fat of a
								and the second	
-60 dBm									
-70 dBm									
-80 dBm									
-90 dBm									
18.0 GHz	<u> </u>		30000 pts		2	00.0 MHz/			20.0 GHz
~						Measuring		11.01.2024 Ref I	evel RBW
								12100105	

12:56:03 11.01.2024



LTE Band 41:

QPSK and 16QAM modulations:

A preliminary scan determined the QPSK modulation, BW=10 MHz, RB=1, Offset=24 as the worst-case.

- LOW CHANNEL:

Frequency range 30 MHz - 1 GHz:

No spurious frequencies at less than 20 dB below the limit.

Frequency range 1 - 26 GHz:

Spurious frequencies at less than 20 dB below the limit:

Spurious frequency (MHz)	E.I.R.P (dBm)	Polarization	Detector
7.77843	-41.9	V	Peak
16.79817	-41.08	Н	Peak

Frequency range 2490.5 - 2496 MHz:

No spurious frequencies at less than 20 dB below the limit.

	<±503 for f < 1GHz
Measurement uncertainty (dB)	<±4.32 for f ≥ 1 GHz up to 18 GHz
	$<\pm 5.51$ for f \geq 18 GHz up to 27 GHz

Verdict: PASS



FREQUENCY RANGE 30 MHz - 1 GHz:

- LOW CHANNEL:



14:55:08 10.01.2024

FREQUENCY RANGE 1 - 3 GHz:

- LOW CHANNEL:

									
MultiView 📒 I	Receiver ×	Spectrum	×						•
Ref Level 0.00 dE Att 0 Input 1.	8m ● RB1 dB ● SWT 1 s ● VB1 AC PS Off Not	W 1 MHz W 3 MHz Mode Sw tch Off	veep					Frequency 3	2.0000000 GHz
1 Frequency Swee	_6496_PIRE_3M","CAI 2p	BLE_9613_9M","CABLI	E_9123_3M","CABLE_	9184_2M","AMPLIFIC	ADOR_3783","ATENU	ADOR_10DB","6100_0	CABLE_1m"		•1Pk View
-10 dBm									
00.40								L	
-20 080	H1 -25.000 dBm						u.		
-30 dBm									
-40 dBm-									
+o ubm									the state of the
-50 dBm	والعاما فيجمعه والعروفات والماقد ومريد وال	a har werden berechte ditte bei beiten ste			l dan menunun di din upber anan di di Anan menunun di dina di di	والتناب وبالتا واللعظ ويتزو فتتحد وأربتنا فتع			
	na an ing pananan dina parawa ng pana kasilan panika di kasi panika di kasi panika di kasi panika di								
-ou ubm									
-70 dBm									
00 dbm									
oo usiii									
-90 dBm									
1.0 GHz			30000 pts		2	:00.0 MHz/			3.0 GHz
~						Measuring		10:01.2024 Ref	O O

12:58:57 10.01.2024

The peaks above the limit is the carrier frequency.



FREQUENCY RANGE 3 - 17 GHz:

- LOW CHANNEL:

MultiView Red Ref Level 0.00 dBm Att 0 dB Input 1 AC TDF Input1 "6100_CABL	eiver Sgl BBW 1N BBW 1N BSWT 1s VBW 3N PS Off Notch E_1m","AMPLIFICADOR 3	2 X Spectru IHz IHz Mode Sweep Off 3783","ANTENA_6496_PI	JM ×	PF_3GHZ","CABLE_9123	_3M"			Frequency	10.0000000 GHz
1 Frequency Sweep									• 1Pk View M1[1] -43,81 dBm
									7.778900 GHz
-10 dBm									16.798170 GHz
-20 dBm									
	H1 -25.000 dBm								
-30 dBm									
-40 dBm									M2
-+o ubii			M1	a	the second second second	a data an an industria			A REAL PROPERTY AND
-50 dBm		in the second second second second second							
La force de la contra de la contr									
-60 dBm									
-70 dBm									
-80 dBm									
-90 dBm									
PO GDIN									
3.0 GHz			30000 pts			1.4 GHz/			17.0 GHz
~						- M	easuring		Ref Level RBW O O

13:06:02 08.02.2024

FREQUENCY RANGE 17 - 26 GHz:

- LOW CHANNEL:

									\$
MultiView = F	Receiver X	Spectrum	×						•
Ref Level 0.00 dB Att 0 d	m ● RBV dB ● SWT 1 s ● VBV	V 1 MHz V 3 MHz Mode Sw	eep					Frequency 21	5000000 GHz
TDF Input1 "4657_A	AC PS Off Not NTENNA_EIRP_1'5m","	ch Off 2478_CABLE_1M","PP	EAMPLIFIER BONN 88	56","6546_CABLE","7	287_17GHZ_HPF"				
1 Frequency Swee	p								●1Pk View
-10 dBm									
-20 dBm-									
	H1 -25.000 dBm								
-30 dBm									
-40 dBm									
-SOLIDBOT		The state of the s					and the second second		Colettes and the construction
from all totalises because and the borners	and an effective states of the contract of the second states of the seco	A hard and the second statement of the second state	We are true bad bar and a second	and all the store of provide distriction		الله الله والعدر والمادة ويدي فالقاط المدالة. المحمد المحمد والمادين ويدي فالقاط المدينة			
-60 dBm									
-70 dBm-									
-80 dBm									
-90 dBm									
17.0.GHz			30000 pte			00.0 MHz/			26.0.647
			50000 pts		9	Measuring		11.01.2024 Ref L	evel RBW

13:00:32 11.01.2024



FREQUENCY RANGE 2490.5 - 2496 MHz:

- LOW CHANNEL:

MultiView 📒 I	Receiver X	Spectrum	×						•
Ref Level 0.00 dE	3m ● RBV dB ● SWT 1 s ● VBV	₩ 1 MHz ₩ 3 MHz Mode Sw	reep					Frequency 3	2.4932500 GHz
Input 1, TDF Input1 "ANTENA	AC PS Off Not 6496 PIRE 3M"."CAE	ch Off BLE 9613 9M","CABLE	5 9123 3M"."CABLE	9184 2M"."AMPLIFIC	ADOR 3783"."6100 ·	CABLE 1m"."ATENUAD	OR 10DB"	riequency .	
1 Frequency Swee	ep								o1Pk View
-10 dBm-									
	H1 -13.000 dBm								
-20 dBm									
-30 dBm									
-40 dBm									
a ser construction all of su	and the state of the	the state of the state of the state of the	and the sector sector	the state of the state	un mana andreas kan	al and a standard state of the	a materia de transferancia	I call to see the	e autor au constituto del
			an a fin da a na a ta an						
-60 dBm									
70 40 41									
-70 UBM									
-80 dBm									
-90 dBm									
2 4905 CHz			30000 pte		5	50.0 kHz/			2 496 CHz
2110 00 0112			30000 pts	•		Measuring		10.01.2024 Ref I	evel RBW
								13:36:50	

13:36:50 10.01.2024