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FCC Test Report

Client Name Lithiutech Canada Inc

614-9320 Saint Laurent Montreal Canada Client Address

Product Name **TABLET**

Feb. 25, 2023 **Report Date**

Compliance Laboration Anbotek Shenzhen Anbotek Compliance Laboratory Limited * Approved









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Shenzhen Anbotek Compliance Laboratory Limited

Code:AB-RF-05-b

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TEST REPORT

Applicant : Lithiutech Canada Inc

Manufacturer : Lithiutech Canada Inc

Product Name : TABLET
Model No. : TAB8V
Trade Mark : Vortex

Rating(s) : Input: DC 5V, 1A (with DC 3.8V, 4000mAh Battery inside)

Test Standard(s) : FCC PART 2, FCC Part 22(H), FCC Part 24(E), FCC Part 27(C)

ANSI C63.26-2015

Test Method(s) : KDB 971168 D01 Power Meas License Digital Systems v03r01

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 22, FCC Part 24, FCC Part 27 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt Nov. 30, 2022

Date of Test: Nov. 30, 2022~Jan. 06, 2023

Prepared by:

(TuTu Hong)

ok boyer And

(Kingkong Jin)



Approved & Authorized Signer:



Revision History

Report Version			Description				Issued Date		
Ant	R00	Anbot	ek Aupo,	Original Issue	upoje, VL	abotek	Feb. 25, 2023	3	
e/r	Anbotek	An	otek Anbotek	Anbotek	Anborek	Anbotek	Anboren	Villa	
otek	Anbotek		Anbo otek Anbo	lek Pupor	hotek.	Anboli.	Auponiek	-	





Report No.: 18220WC20274306

1. General Information

1.1. Client Information

Applicant	:	Lithiutech Canada Inc
Address	:	614-9320 Saint Laurent Montreal Canada
Manufacturer	:	Lithiutech Canada Inc
Address	:	614-9320 Saint Laurent Montreal Canada
Factory	:	Lithiutech Canada Inc
Address	:	614-9320 Saint Laurent Montreal Canada

1.2. Description of Device (EUT)

Product Name	: TABLET Anbotek Anbotek Anbotek Anbotek Anbotek Anbotek
Model No.	: TAB8V Anbotek Anbotek Anbotek Anbotek
Trade Mark	: Vortex
Test Power Supply	DC 3.8V Battery inside
Test Sample No.	: 1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	Model: BCT050200-078EU : Input: 100-240~ 50/60Hz 0.3A Output: 5V= 2000mA 10W
RF Specification	
Support Band	: ⊠FDD Band II ⊠FDD Band V ⊠FDD Band IV
Transmit Frequency	FDD Band II: 1852.40MHz~1907.60MHz : FDD Band V: 826.40MHz~846.60MHz FDD Band IV: 1712.40MHz~1752.60MHz
Receive Frequency	FDD Band II: 1932.40MHz~1987.60MHz : FDD Band V: 871.40MHz~891.60MHz FDD Band IV: 2112.40MHz~2152.60MHz
Modulation Type	: QPSK
Power Class	: Class 3
Antenna Type	: FPC Antenna
Antenna Gain(Peak):	FDD Band II: 3.38 dBi (Provided by customer) FDD Band V: -6.78 dBi (Provided by customer) FDD Band IV: 2.54 dBi (Provided by customer)

Remark: 1) For a more detailed or the User's Manual.









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1.3. Auxiliary Equipment Used During Test

Description		Rating(s)							
botek	Aupor	 Ar.	Anboter	AUG	Jo.	botek	Anbor	b:	o'ek

1.4. Operation State

Test frequency list:

	FDD E	Band II	FDD B	and V	FDD Band IV		
c)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
	9262	1852.40	4132	826.40	1312	1712.40	
	9400	1880.00	4183	836.60	1413	1732.60	
1/3	9538	1907.60	4233	846.60	1513	1752.60	

Test mode:

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03 and ANSI C63.26-2015 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

30 MHz to 10th harmonic for FDD Band II, Band V, Band IV

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

-V 401	DI., TIGHT	-/r ro, b,,						
	Test modes							
Band	Radiated	Conducted						
FDD Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link						
FDD Band V	■ RMC 12.2Kbps Link	RMC 12.2Kbps Link						
WCDMA Band IV	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link						

1.5. Environmental Conditions

Temperature range:	21-25℃	Anboatek	nbotek	Anbore	Air.
Humidity range:	40-75%	Aupo rek	nborek	Anboro	Arr. Potek
Pressure range:	86-106kPa	Aupo, rak	abotek	Anbore	Amb







1.6. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1. _{ps}	EMI Preamplifier	SKET Electronic	LNPA-0118G-4 5	SKET-PA-002	Oct. 13, 2022	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	Oct. 23, 2022	1 Year
3.	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	Oct. 16, 2022	3 Year
4.o	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Oct. 23, 2022	2 Year
5. 00	Pre-amplifier	SONOMA	310N	186860	Oct. 23, 2022	1 Year
6.	EMI Test Software EZ-EMC	SHURPLE	N/A	oo ^{tek} N/A Moote	N/A	N/A
Jogok Jogok	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Oct. 13, 2022	1 Year
8.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Oct. 13, 2022	1 Year
9.	DC Power Supply	And LW.	TPR-6420D	374470	Oct. 22, 2022	1 Year
10.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	Nov. 01, 2021	1 Year
A17.	Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	167336	Oct. 13, 2022	1 Year
12.	High-Pass Filter	CDKMV	ZHPF-BM1100 -4000-0730	B2015094550	Oct. 22, 2022	1 Year
13.	High-Pass Filter	CDKMV	ZHPF-M3.5 -18G-3834	1307006523	Oct. 22, 2022	1 Year





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1.7. Measurement Uncertainty

Maximum measurement uncertainty

Parameter	Uncertainty		
RF output power, conducted	And ±1,5 dB Andor		
Power Spectral Density, conducted	±3 dB		
Unwanted Emissions, conducted	Anbores 40 ±3 dB		
All emissions, radiated	±6 dB		
Temperature	±1 ℃		
Humidity	±5 %		
DC and low frequency voltages	±3 %		
Anbatek apporte Time Anbatek	±5 %		
Confidence interval: 95%. 0	Confidence factor:k=2		

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102







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2. Summary of Test

2.1. Summary of test result

FCC Rules	Description of Test	Result
Part 2.1046	ek obotek Anbore Arra	Anbotek Anbo
Part 22.913(a)	Conducted Output Power	Compliance
Part 24.232(c)	Conducted Output Fower	Compliance
Part 27.50(d)	shorek Anbore An otek Anbore	Anbo
Part 24.232	Peak-Average Ratio	Compliance
Part 27.50(d)	reak-Average Natio	Compliance
§ 2.1047	Modulation Characteristics	N/A Moore
Part 2.1049	99% Occupied Bandwidth & 26 dB Bandwidth	Compliance
Part 2.1051	Anbore Anborek Anborek Anbo	ek aborek
Part 22.917	Conducted Spurious Emission	Compliance
Part 24.238	Conducted Spurious Emission	Compliance
Part 27.53(h)	K hotek Anboten And	abotek Anbors
Part 2.1051	And stek upotek Anbo	W. Potek Wup.
Part 22.917	Band Edge	Compliance
Part 24.238	Band Edge	Compliance
Part 27.53(h)	rek pore And ak ho	ek Anbore
Part 2.1055(a)(1)(b)	Anbore Anbore Ans	otek Anbotek
Part 22.355	Frequency stability VS. temperature	Compliance
Part 24.235	rrequency stability vo. temperature	Compliance
Part 27.54	ak shotek Anbor All stek	Anboren Ano
Part 2.1055(d)(1)(2)	o. Andrew Andrew Andrew	aborek Ar
Part 22.355	Frequency stability VS. voltage	Compliance
Part 24.235	Frequency stability VS. voltage	Compliance
Part 27.54	Andrek Anbote And tek and	otek Anbo.
Part 2.1046	Anbotek Anbotek Anbotek	botek Anbore
Part 22.913(a)	ERP and EIRP	Compliance
	LINI dilu LINI	Compliance
Part 24.232(c) Part 27.50	otek Aupo, W. ok Poter	Anbotek An
Part 2.1053	nbotek Anbotek Anbote Ann	k Anbotek
Part 22.917		Compliance
Part 24.238 Part 27.53(h)	Nadiated Spurious Emission	Compliance
Part 27.53(h)	Anbotek Anbote Ant	nboten And

Note: Testing was performed by configuring EUT to maximum output power status, the declared output power class for different









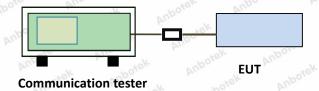
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3. Conducted Output Power Test

3.1. Test Standard and Limit

		N. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	0.00	- 100 m			
7	Applicable	Part 2.1046	Anbore	'un	anbotek	Anbo	hote
	Standard:	Part 22.913(a)					Arr
o'i		Part 24.232(c)					Anb
		Part 27.50(d)					P
	Limit:	N/A	Anbo	-6/4 -60°	lek Wupos	Pre-	rek

3.2. Test Setup



3.3. Test Procedure

- 1. The EUT output port was connected to communication tester.
- 2. Set EUT at maximum power through communication tester.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure the maximum burst average power.

3.4. Test Data

Pass

Please refer to Appendix A of the Appendix Test Data.







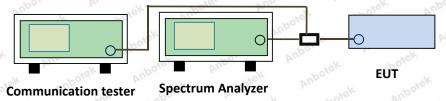
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4. Peak-Average Ratio

4.1. Test Standard and Limit

1	Applicable Standard:	Part 24.232	Anbore	Ann	Anbotek	Aupo	-hotel
		Part 27.50(d)					Vive
07	Limit:	13dB	abotek	Anboro	All.	Anboten	AUD

4.2. Test Setup



4.3. Test Procedure

According with KDB 971168 D01 Section 5.7:

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter.
- 2. Set EUT in maximum power output.
- 3. Center Frequency = Carrier frequency, RBW > Emission bandwidth of signal.
- 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.
 - i. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms.
 - ii. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power
- 6. Record the maximum PAPR level associated with a probability of 0.1%.

4.4. Test Data

Pass

Please refer to Appendix B of the Appendix Test Data.





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5. Modulation Characteristic

According to FCC § 2.1047(d), Part 22H, Part 24E, Part 27C there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.





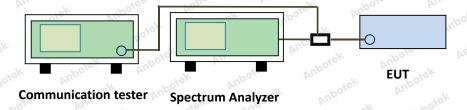
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6. 99% Occupied Bandwidth & 26 dB Bandwidth

6.1. Test Standard and Limit

4	Applicable Standard:	Part 2.1049	Anbore	Aug	upotek	Aupo	-pore
	Limit:	N/A	Anbotek	Anbo	abotek	Anbor	by.

6.2. Test Setup



6.3. Test Procedure

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter.
- 2. Set EUT in maximum power output.
- Spectrum analyzer setting as follow: Center Frequency= Carrier frequency, RBW=1% to 5% of anticipated OBW, VBW= 3 * RBW, Detector=Peak, Trace maximum hold.
- 4. Record the value of 99% Occupied bandwidth and -26dB bandwidth.

6.4. Test Data

Pass

Please refer to Appendix C of the Appendix Test Data.







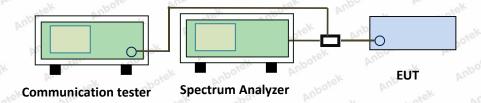
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7. Band Edge

7.1. Test Standard and Limit

	No. 1	ACC ACC ACC ACC
ļ.	Applicable Standard:	Part 2.1051
		Part 22.917
51		Part 24.238
n l		Part 27.53(h)
	Limit:	Part 24.238 and Part 22.917 and Part 27.53(h)specify that 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.
46		The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes
1		43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

7.2. Test Setup



7.3. Test Procedure

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter.
- 2. Set EUT in maximum power output.
- 3. The band edges of low and high channels were measured.
- Spectrum analyzer setting as follow:
 RBW=3KHz, VBW = 10KHz, Sweep time= Auto
- 5. Record the test plot.

7.4. Test Data

Pass

Please refer to Appendix D of the Appendix Test Data.







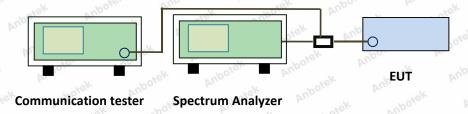
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8. Conducted Spurious Emission

8.1. Test Standard and Limit

	Prince and the second	
4	Applicable Standard:	Part 2.1051
		Part 22.917
S,		Part 24.238
n'		Part 27.53(h)
	Limit:	Part 24.238 and Part 22.917 and Part 27.53(h) specify that 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.
16		The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes
1/2		43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

8.2. Test Setup



8.3. Test Procedure

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter.
- 2. Set EUT in maximum power output.
- Spectrum analyzer setting as follow:
 Below 1GHz, RBW=100KHz, VBW = 300KHz, Detector=Peak, Sweep time= Auto
 Above 1GHz, RBW=1MHz, VBW=3MHz, Detector=Peak, Sweep time= Auto
 Scan frequency range up to 10th harmonic.
- 4. Record the test plot.

8.4. Test Data

Pass

Please refer to Appendix E of the Appendix Test Data.







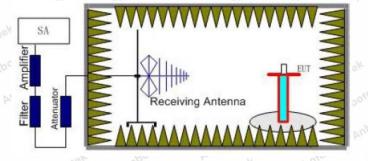
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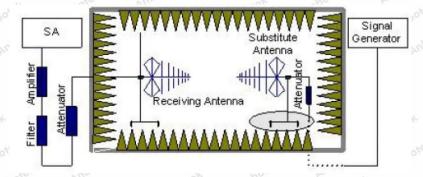
9. Radiated Spurious Emission

9.1. Test Standard and Limit

4	Applicable Standard:	Part 2.1053	Anbore	And	nbotek	Aupo ok	-botek
		Part 22.917					Direc
O'		Part 24.238					Anbo
n'		Part 27.53(h)					- Pic
,,,	Limit:	-13dBm	anborer Ant	rek abi	otek Anbore	k 200	tek

9.2. Test Setup





9.3. Test Procedure

- 1. Place the EUT in the center of the turntable.
 - a) For radiated emissions measurements performed at frequencies less than or equal to 1 GHz, the EUT shall be placed on a RF-transparent table at a nominal height of 80 cm above the reference ground plane
 - b) For radiated measurements performed at frequencies above 1 GHz, the EUT shall be placed on an RF transparent table at a nominal height of 1.5 m above the ground plane.
- Unless the EUT uses an integral antenna, the EUT shall be terminated with a non-radiating transmitter load. In cases where the EUT uses an adjustable antenna, the antenna shall be adjusted through typical positions and lengths to maximize emissions levels.
- 3. The EUT shall be tested while operating on the frequency per manufacturer specification. Set the transmitter to operate in continuous transmit mode.
- 4. Receiver or Spectrum set as follow:

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community,

Hotline 400–003–0500 www.anbotek.com.cn

Code: AB-RF-05-b





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Below 1GHz, RBW=100kHz, VBW=300kHz, Detector=Peak, Sweep time=Auto Above 1GHz, RBW=1MHz, VBW=3MHz, Detector=Peck, Sweep time=Auto

- 5. Each emission under consideration shall be evaluated:
 - a) Raise and lower the measurement antenna from 1 m to 4 m, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.
 - b) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.
 - c) Return the turntable to the azimuth where the highest emission amplitude level was observed.
 - d) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.
 - e) Record the measured emission amplitude level and frequency
- 6. Repeat step 5 for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.
- 7. Set-up the substitution measurement with the reference point of the substitution antenna located as near as possible to where the center of the EUT radiating element was located during the initial EUT measurement.
- 8. Maintain the previous measurement instrument settings and test set-up, with the exception that the EUT is removed and replaced by the substitution antenna.
- 9. Connect a signal generator to the substitution antenna; locate the signal generator so as to minimize any potential influences on the measurement results. Set the signal generator to the frequency where emissions are detected, and set an output power level such that the radiated signal can be detected by the measurement instrument, with sufficient dynamic range relative to the noise floor.
- 10. For each emission that was detected and measured in the initial test
 - a) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude.
 - b) Adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the amplitude level of the emission previously measured directly in step 5 and step 6.
 - c) Record the output power level of the signal generator when equivalence is achieved in step b)
- 11. Repeat step 8 through step 10 with the measurement antenna oriented in the opposite polarization.
- 12. Calculate the emission power in dBm referenced to a half-wave dipole using the following equation:

Pe = Ps(dBm) - cable loss (dB) + antenna gain (dBd)

Pe = equivalent emission power in dBm

Ps = source (signal generator) power in dBm

NOTE—dBd refers to the measured antenna gain in decibels relative to a half-wave dipole.

13. Correct the antenna gain of the substitution antenna if necessary to reference the emission power to a half-wave dipole. When using measurement antennas with the gain specified in dBi, the equivalent dipole-referenced gain can be determined from:

gain (dBd) = gain (dBi) - 2.15 dB.

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If necessary, the antenna gain can be calculated from calibrated antenna factor information

14. Provide the complete measurement results as a part of the test report.

9.4. Test Data

Pass

Note: Worst case at WCDMA Band II/ WCDMA Band V/ WCDMA Band IV

			WCDMA	Band II				
	Frequency		Spurious	Emission		Limit		
Channel	(MHz)	Polarization	Reading (dBm)	Factor (dB)	Level (dBm)	(dBm)	Result	
Anborel	3704.80	Vertical	-48.72	13.26	-35.46	sk Vupo,	bu.	
	5557.20	V And	-55.73	16.62	-39.11	<-13.00	PASS	
	7409.60	pole, Au	-58.09	17.84	-40.25		Anbore	
9262	3704.80	Horizontal	-50.41	13.26	-37.15	Purplek	Anborer	
	5557.20	AnbAtek	-57.32	16.62	-40.70	<-13.00	PASS	
	7409.60	Hoorek	-59.44	17.84	-41.60		k anbot	
Aupolea	3760.00	Vertical	-47.46	13.27	-34.19	Anbe	atek an	
	5640.00	stek V anb	-54.41	16.49	-37.92	<-13.00	PASS	
otek	7520.00	V	-57.09	17.96	-39.13		Aupr of Sk	
9400	3760.00	Horizontal	-48.87	13.27	-35.60	Anbotek	Aupo	
	5640.00	Anbot H	-55.94	16.49	-39.45	<-13.00	PASS	
	7520.00	HA HA	-58.37	17.96	-40.41		k Aupor	
Anbo	3815.20	Vertical	-45.62	13.59	-32.03	dn. Yor	otek Ant	
	5722.80	otek V Anbr	-52.64	16.69	-35.95	<-13.00	PASS	
otek An	7630.40	abotekV A	-55.21	17.95	-37.26		abotek	
9538	3815.20	Horizontal	-48.43	13.59	-34.84	Anbore.	An botek	
	5722.80	Hotek	-55.43	16.69	-38.74	<-13.00	PASS	
	7630.40	H otek	-57.75	17.95	-39.80		Y Ans	

Remark:

- 1. The emission behaviour belongs to narrowband spurious emission.
- 2. The emission levels of not record in the report are very lower than the limit and not show in test report







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			WCDMA	Band V				
	Fraguenav		Spurious	Emission		Limit	Result	
Channel	Frequency (MHz)	Polarization	Reading (dBm)	Factor (dB)	Level (dBm)	(dBm)		
Anbore	1652.80	Vertical	-38.34	5.62	-32.72	K MO	rek Anbo	
	2479.20	rek V noboli	-46.62	9.32	-37.30	<-13.00	PASS	
otek 4400 Amb	3305.60	ovek V	-52.57	12.69	-39.88	abotek Ar		
4132	1652.80	Horizontal	-40.06	5.62	-34.44	Anbotek	Anbo	
	2479.20	Aupo Hek	-48.24	9.32	-38.92	<-13.00	PASS	
	3305.60	Aupa,	-54.09	12.69	-41.40	Anborek		
Vien	1673.20	Vertical	-38.98	7.69	-31.29	lek vupos	ek Aupo	
	2509.80	ek V Aupon	-45.41	9.46	-35.95	<-13.00	PASS	
tek Anbi	3346.40	botek V Anb	-50.88	12.26	-38.62	Upo. K.		
4183	1673.20	Horizontal	-40.94	7.69	-33.25	Aupo.	Anborek	
	2509.80	P. Hek	-47.26	9.46	-37.80	<-13.00	PASS	
	3346.40	Hotek	-52.61	12.26	-40.35	Anbore		
Anbotek	1693.20	Vertical	-37.86	8.26	-29.60	Ask Mupor	Die N	
	2539.80	V	-44.01	9.65	-34.36	<-13.00	PASS	
	3386.40	V Ann	-49.54	12.41	-37.13	abotek		
4233	1693.20	Horizontal	-40.11	8.26	-31.85	Anborek	Anboren	
	2539.80	Anbatel	-46.13	9.65	-36.48	<-13.00	PASS	
	3386.40	A Hotek	-51.52	12.41	-39.11	K Wun		

Remark:

- 1. The emission behaviour belongs to narrowband spurious emission.
- 2. The emission levels of not record in the report are very lower than the limit and not show in test report.





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			WCDMA	Band IV				
	Fraguenay		Spurious	Emission		Limit		
Channel	Frequency (MHz)	Polarization	Reading (dBm)	Factor (dB)	Level (dBm)	(dBm)	Result	
Anbore	1652.80	Vertical	-40.89	8.69	-32.20	N MILE	ek anb	
	2479.20	ek V nbote	-46.01	9.23	-36.78	<-13.00	PASS	
rek	3305.60	Nek V	-51.95	12.59	-39.36	aboten Ar		
1312	1652.80	Horizontal	-42.97	8.69	-34.28	Anbotek	Anbo	
	2479.20	Anber Hek	-47.96	9.23	-38.73	<-13.00	PASS	
	3305.60	Aupo,	-53.79	12.59	-41.20	k Anborok		
Anth	1673.20	Vertical	-39.25	8.78	-30.47	dek Aupol	Sk Vupe	
	2509.80	Sk Aupor	-44.81	9.65	-35.16	<-13.00	PASS	
ak Anbo	3346.40	botek V Anti	-50.44	12.61	-37.83	upo. Fek		
1413	1673.20	Horizontal	-41.63	8.78	-32.85	Yupo,	Anborek	
	2509.80	Hek.	-47.03	9.65	-37.38	<-13.00	PASS	
	3346.40	Hotek	-52.54	12.61	-39.93	Anbore		
Anborek	1693.20	Vertical	-37.13	8.69	-28.44	yek Mupor	V. Dur	
	2539.80	V	-42.77	9.52	-33.25	<-13.00	PASS	
	3386.40	V Ant	-48.72	12.69	-36.03	spotek		
1513	1693.20	Horizontal	-39.85	8.69	-31.16	Anborek	Anborek	
	2539.80	Anbatek	-45.31	9.52	-35.79	<-13.00	PASS	
	3386.40	Motek	-51.13	12.69	-38.44	Aur		

Remark:

- 1. The emission behaviour belongs to narrowband spurious emission.
- 2. The emission levels of not record in the report are very lower than the limit and not show in test report.





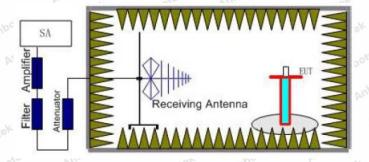
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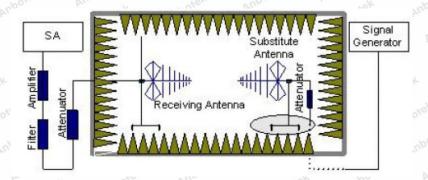
10. ERP and EIRP

10.1. Test Standard and Limit

	Part of the same o	VI VIV. VIV.
Y.	Applicable Standard:	Part 2.1046
		Part 22.913(a)
0,		Part 24.232(c)
		Part 27.50
	Limit:	WCDMA Band II: 2W (33dBm) EIRP
		WCDMA Band V: 7W (38.45dBm) ERP
		WCDMA Band IV: 1W (30dBm) EIRP

10.2. Test Setup





10.3. Test Procedure

- 1. Place the EUT in the center of the turntable.
 - a) For radiated emissions measurements performed at frequencies less than or equal to 1 GHz, the EUT shall be placed on a RF-transparent table at a nominal height of 80 cm above the reference ground plane
 - b) For radiated measurements performed at frequencies above 1 GHz, the EUT shall be placed on an RF transparent table at a nominal height of 1.5 m above the ground plane.
- 2. Unless the EUT uses an integral antenna, the EUT shall be terminated with a non-radiating transmitter load. In cases where the EUT uses an adjustable antenna, the antenna shall be adjusted through typical positions and lengths to maximize emissions levels.

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- The EUT shall be tested while operating on the frequency per manufacturer specification. Set the transmitter to operate in continuous transmit mode.
- 4. Receiver or Spectrum set as follow:

Below 1GHz, RBW=100kHz, VBW=300kHz, Detector=Peak, Sweep time=Auto Above 1GHz, RBW=1MHz, VBW=3MHz, Detector=Peck, Sweep time=Auto

- Each emission under consideration shall be evaluated:
 - a) Raise and lower the measurement antenna from 1 m to 4 m, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.
 - b) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.
 - c) Return the turntable to the azimuth where the highest emission amplitude level was observed.
 - d) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.
 - e) Record the measured emission amplitude level and frequency
- 6. Repeat step 5 for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.
- 7. Set-up the substitution measurement with the reference point of the substitution antenna located as near as possible to where the center of the EUT radiating element was located during the initial EUT measurement.
- 8. Maintain the previous measurement instrument settings and test set-up, with the exception that the EUT is removed and replaced by the substitution antenna.
- 9. Connect a signal generator to the substitution antenna; locate the signal generator so as to minimize any potential influences on the measurement results. Set the signal generator to the frequency where emissions are detected, and set an output power level such that the radiated signal can be detected by the measurement instrument, with sufficient dynamic range relative to the noise floor.
 - For each emission that was detected and measured in the initial test
 - a) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude.
 - b) Adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the amplitude level of the emission previously measured directly in step 5 and step 6.
 - c) Record the output power level of the signal generator when equivalence is achieved in step b).
 - 11. Repeat step 8 through step 10 with the measurement antenna oriented in the opposite polarization.
 - 12. Calculate the emission power in dBm referenced to a half-wave dipole using the following equation:

Pe = Ps(dBm) - cable loss (dB) + antenna gain (dBd)

where

Pe = equivalent emission power in dBm

Ps = source (signal generator) power in dBm

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NOTE—dBd refers to the measured antenna gain in decibels relative to a half-wave dipole.

- 13. Correct the antenna gain of the substitution antenna if necessary to reference the emission power to a half-wave dipole. When using measurement antennas with the gain specified in dBi, the equivalent dipole-referenced gain can be determined from:
 - gain (dBd) = gain (dBi) 2.15 dB.
 - If necessary, the antenna gain can be calculated from calibrated antenna factor information
- 14. Provide the complete measurement results as a part of the test report.

10.4. Test Data

Pass

		ERP&EIRF)			
Mada	Channal	(dE	Bm)	Limit (dBm)	Daniell	
Mode	Channel	Vertical	Vertical Horizontal		Result	
An Monday Day July Anbol	9262	22.09	20.57	pr. spotek	Anbote. Ani	
WCDMA Band II (EIRP)	9400	22.78	19.30	<33.00	PASS	
hore (Chici)	9538	21.79	20.35	ok Potek	Anborek	
MODAAA Damel M	4132	21.08	19.85	e Aug	sk Anbotek	
WCDMA Band V (ERP)	4183	21.70	18.65	<38.45	PASS	
Anbo(LIVI) Anbo	4233	20.58	19.60	Anboter An	otek nob	
WODAA Daad IV	1312	20.84	20.36	Anboren	Aupa	
WCDMA Band IV (EIRP)	1413	21.55	18.74	<30.00	PASS	
wotek Anborek	1513	20.55	19.95	ek Anbotek	Anbo.	



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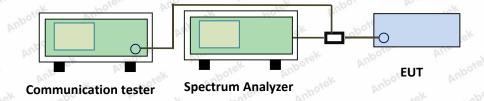
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11. Frequency stability VS Voltage measurement

11.1. Test Standard and Limit

Applicable Standard:	Part 2.1055((d)(1)(2)	Die. M	rek	anbotek	Aupo	hote
	Part 22.355						Arra
	Part 24.235						Anb
	Part 27.54						
Limit:	2.5ppm	Anbotek	Anbo	ek abo	Hek Anbor	bre.	ick

11.2. Test Setup



11.3. Test Procedure

- 1. The equipment under test was connected to an external DC power supply and input rated voltage.
- 2. The EUT output port was connected to communication tester.
- 3. The EUT was placed inside the temperature chamber at 25°C.
- The power supply voltage to the EUT was varied ±15% of the nominal value measured at the input to the EUT.
- 5. Record the maximum frequency change.

11.4. Test Data

Pass

Please refer to Appendix F of the Appendix Test Data.







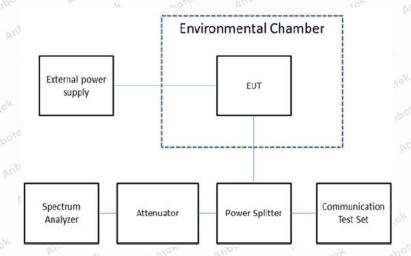
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12. Frequency stability VS Temperature measurement

12.1. Test Standard and Limit

Applicable Standard:	Part 2.1055(a)(1)(b)	Ve. bil	rek	nbotek	Aupo	hotel
	Part 22.355						Ville
	Part 24.235						Anb
	Part 27.54						
Limit:	2.5ppm	Anbotek	Anbo	ek abo	yek Aupore	bu.	iek

12.2. Test Setup



12.3. Test Procedure

- 1. The equipment under test was connected to an external DC power supply and input rated voltage.
- 2. The EUT output port was connected to communication tester.
- 3. The EUT was placed inside the temperature chamber.
- 4. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.
- 5. Repeat step 4 measure with 10°C increased per stage until the highest temperature of +50°C reached.

12.4. Test Data

Pass

Please refer to Appendix G of the Appendix Test Data







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APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_PCB

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

