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Appendix B

WCDMA Band2&5



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1 Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	EIRP[dBm]	Limit[dBm]	Verdict
		LCH	23.53	22.53	33	PASS
	UMTS/TM1	MCH	23.55	22.55	33	PASS
WCDMA1900		HCH	23.52	22.52	33	PASS
VVCDIMA 1900		LCH	20.11	19.11	33	PASS
	UMTS/TM2	MCH	20.14	19.14	33	PASS
		HCH	20.18	19.18	33	PASS

Test Band	Test Mode	Test Channel	Measured[dBm]	ERP[dBm]	Limit[dBm]	Verdict
		LCH	23.25	17.60	38.45	PASS
	UMTS/TM1	MCH	23.31	17.66	38.45	PASS
WCDMA850		HCH	23.23	17.58	38.45	PASS
VVCDIVIA050	UMTS/TM2	LCH	20.64	14.99	38.45	PASS
		MCH	20.10	14.45	38.45	PASS
		HCH	20.33	14.68	38.45	PASS

Note:

a: For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should be taken to calculate it,

ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]

EIRP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBi]

b: SGP=Signal Generator Level



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2 Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
		LCH	2.81	13	PASS
	UMTS/TM1	MCH	2.93	13	PASS
WCDMA1900		HCH	2.14	13	PASS
VVCDIVIA 1900		LCH	3.30	13	PASS
	UMTS/TM2	MCH	3.91	13	PASS
		HCH	3.48	13	PASS
		LCH	2.49	13	PASS
	UMTS/TM1	MCH	2.72	13	PASS
WCDMA850		HCH	2.64	13	PASS
VV CDIVIA050		LCH	4.06	13	PASS
	UMTS/TM2	MCH	4.70	13	PASS
		НСН	4.84	13	PASS

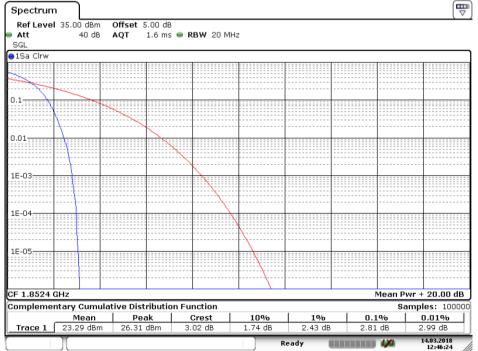
Part II - Test Plots

2.1 For WCDMA

2.1.1 Test Band = WCDMA1900

2.1.1.1 Test Mode = UMTS/TM1

2.1.1.1.1 Test Channel = LCH



Date: 14.MAR.2018 12:46:24



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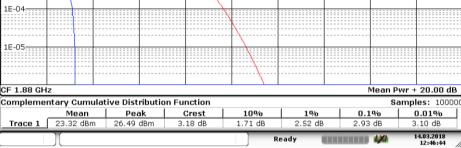
 Spectrum

 Ref Level 35.00 dBm
 Offset 5.00 dB

 Att
 40 dB
 AQT
 1.6 ms
 RBW 20 MHz

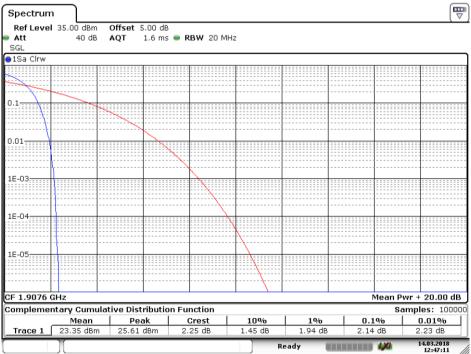
 SGL
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2.1.1.1.2 Test Channel = MCH



Date: 14.MAR.2018 12:46:45

2.1.1.1.3 Test Channel = HCH

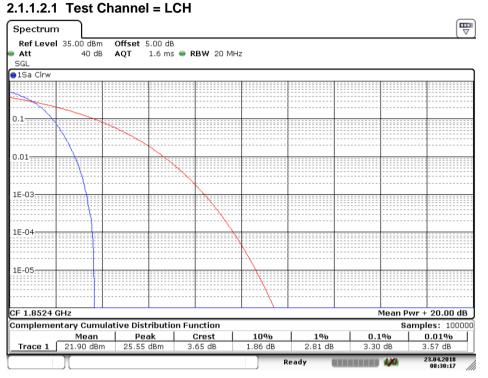


Date: 14.MAR.2018 12:47:11



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2.1.1.2 Test Mode = UMTS/TM2



Date: 23.APR.2018 08:30:17

2.1.1.2.2 Test Channel = MCH

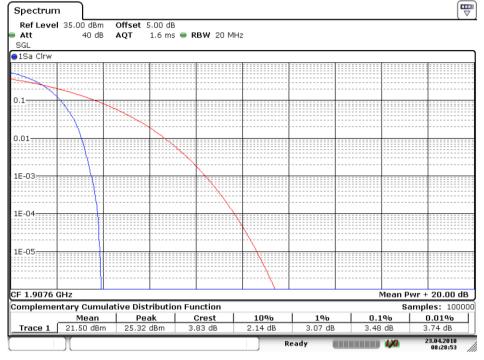


Date: 23.APR.2018 08:29:39



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2.1.1.2.3 Test Channel = HCH

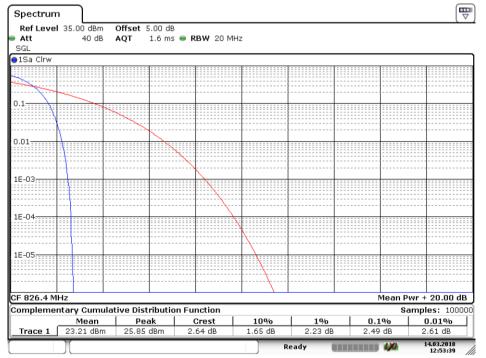


Date: 23.APR.2018 08:28:54

2.1.2 Test Band = WCDMA850

2.1.2.1 Test Mode = UMTS/TM1

2.1.2.1.1 Test Channel = LCH



Date: 14.MAR.2018 12:53:39



2.1.2.1.2 Test Channel = MCH

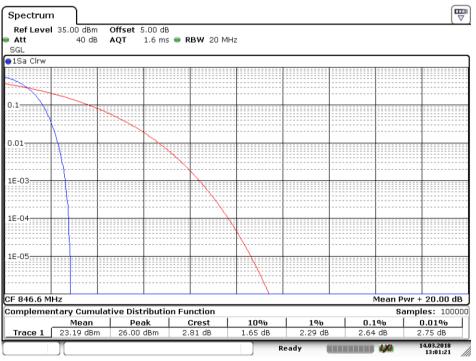
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

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₽ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 1.6 ms 👄 RBW 20 MHz Att 40 dB AQT SGL ■1Sa Cirw 0.1 0.01 -1E-03-1E-04: 1E-05: Mean Pwr + 20.00 dB CF 836.4 MHz Complementary Cumulative Distribution Function Samples: 100000 0.01% Mean Peak Crest 10% 0.1% 1% 1.65 dB Trace 1 23.26 dBm 26.33 dBm 3.07 dB 2.38 dB 2.72 dB 2.93 dB 14.03.2018 Ready X 12:53:57

Date: 14.MAR.2018 12:53:58

2.1.2.1.3 Test Channel = HCH



Date: 14.MAR.2018 13:01:22

2.1.2.2 Test Mode = UMTS/TM2

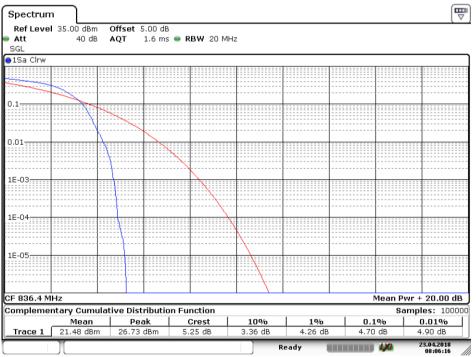


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2.1.2.2.1 Test Channel = LCH B Spectrum Ref Level 35.00 dBm Offset 5.00 dB 1.6 ms 👄 RBW 20 MHz Att 40 dB ΑΟΤ SGL ●1Sa Clrw 0.1 0.01-1E-03-1E-04 1E-05: Mean Pwr + 20.00 dB CF 826.4 MHz Samples: 100000 Complementary Cumulative Distribution Function 0.01% Mean Peak Crest 10% 0.1% 1% Trace 1 21.67 dBm 25.96 dBm 4.30 dB 2.64 dB 3.51 dB 4.06 dB 4.26 dB 23.04.2018 Ready LXI

Date: 23.APR.2018 08:06:45

2.1.2.2.2 Test Channel = MCH

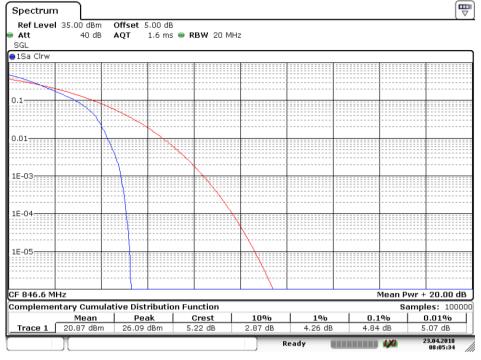


Date: 23.APR.2018 08:06:16



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2.1.2.2.3 Test Channel = HCH



Date: 23.APR.2018 08:05:35



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3 Modulation Characteristics

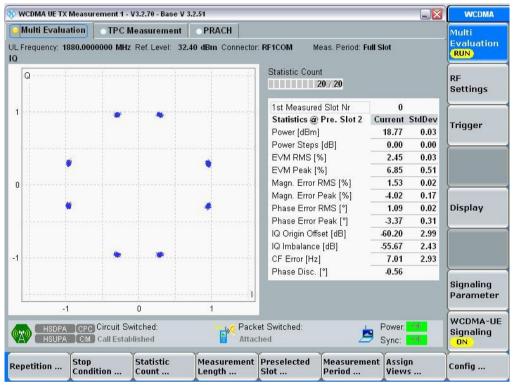
Part I - Test Plots

3.1 For WCDMA

3.1.1 Test Band = WCDMA1900

3.1.1.1 Test Mode = UMTS/TM1

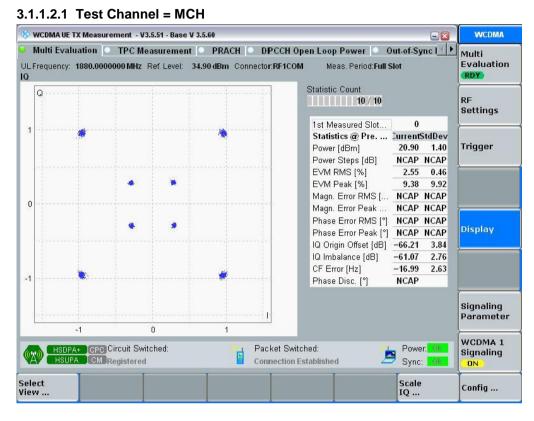
3.1.1.1.1 Test Channel = MCH





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3.1.1.2 Test Mode = UMTS/TM2



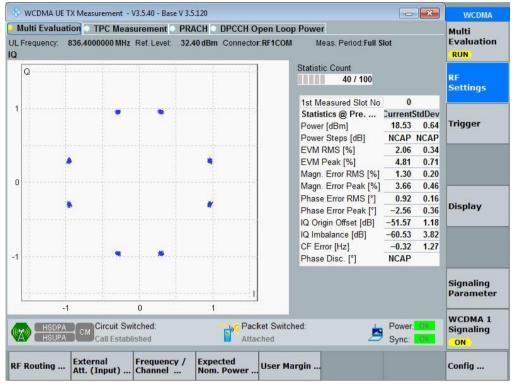


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3.1.2 Test Band = WCDMA850

3.1.2.1 Test Mode = UMTS /TM1

3.1.2.1.1 Test Channel = MCH



3.1.2.2 Test Mode = UMTS/TM2

3.1.2.2.1 Test Channel = MCH 🚸 WCDMA UE TX Measurement - V3.5.51 - Base V 3.5.60 WCDMA - 🛛 Multi Evaluation 💿 TPC Measurement 💿 PRACH 💿 DPCCH Open Loop Power 💿 Out-of-Sync I 🕩 Multi UL Frequency: 836.4000000 MHz Ref. Level: 34.90 dBm Connector: RF1COM Meas. Period:Full Slot Evaluation 10 RDY Statistic Count O. 10 / 10 RF Settings 1st Measured Slot... 0 Statistics @ Pre. ... CurrentStdDev Power (dBm) Trigger 19.43 0.64 Power Steps [dB] NCAP NCAP EVM RMS [%] 2.04 1.79 EVM Peak [%] 5.51 33.58 Magn. Error RMS [... NCAP NCAP 0 Magn. Error Peak ... NCAP NCAP Phase Error RMS [°] NCAP NCAP Display Phase Error Peak [°] NCAP NCAP IQ Origin Offset [dB] -52.05 2.74 IQ Imbalance (dB) -67.98 7.88 CF Error [Hz] -9.30 2.35 -1 Phase Disc. [°] NCAP Signaling Parameter n -1 4 WCDMA 1 HSDPA+ CPC Circuit Switched Packet Switched: Power: Signaling (0<u>4</u>9) HSUPA CM Registered Sync: **Connection Established** ON Select View ... Scale IQ ... Config ...



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4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
		LCH	4.17	4.71	PASS
	UMTS/TM1	MCH	4.16	4.69	PASS
WCDMA1900		HCH	4.17	4.73	PASS
WCDIVIA 1900		LCH	4.19	4.72	PASS
	UMTS/TM2	MCH	4.18	4.70	PASS
		HCH	4.18	4.71	PASS
		LCH	4.16	4.72	PASS
	UMTS/TM1	MCH	4.17	4.71	PASS
WCDMA850		HCH	4.17	4.69	PASS
VVCDIVIA650		LCH	4.19	4.73	PASS
	UMTS/TM2	MCH	4.18	4.72	PASS
		HCH	4.18	4.72	PASS

Part II - Test Plots

4.1 For WCDMA

4.1.1 Test Band = WCDMA1900

4.1.1.1 Test Mode = UMTS/TM1

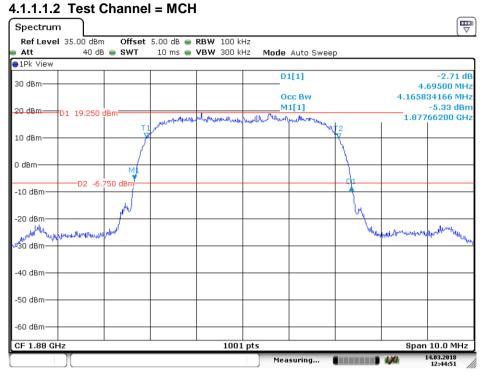
4.1.1.1.1 Test Channel = LCH



Date: 14.MAR.2018 12:45:55

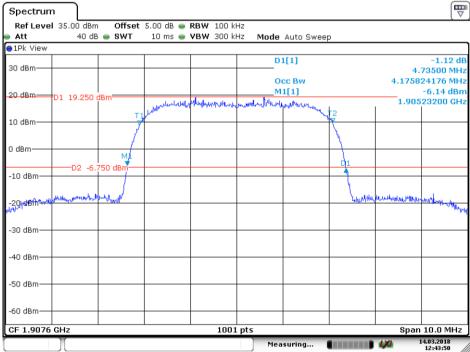


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Date: 14.MAR.2018 12:44:52

4.1.1.1.3 Test Channel = HCH

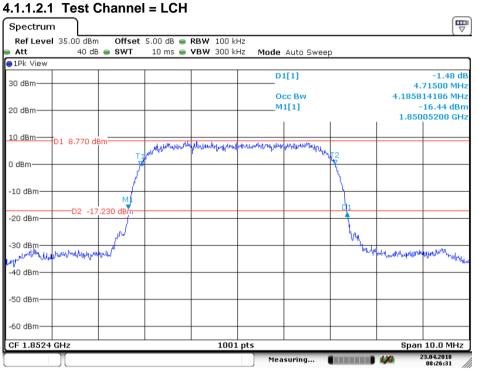


Date: 14.MAR.2018 12:43:50



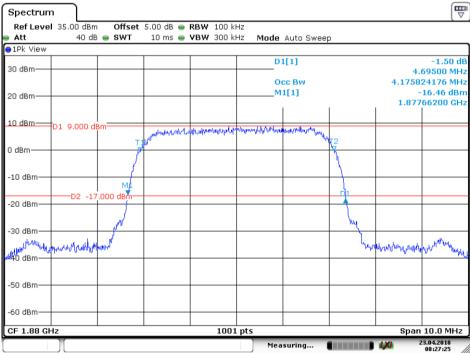
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4.1.1.2 Test Mode = UMTS/TM2



Date: 23.APR.2018 08:26:31

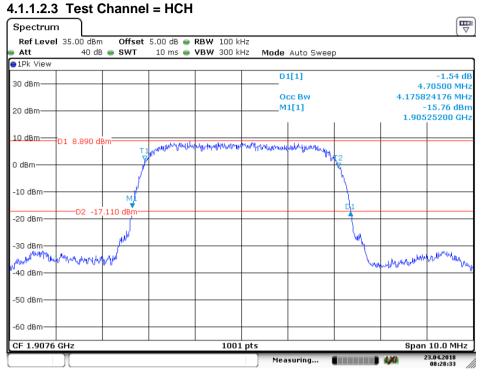
4.1.1.2.2 Test Channel = MCH



Date: 23.APR.2018 08:27:26



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Date: 23.APR.2018 08:28:33

4.1.2 Test Band = WCDMA850

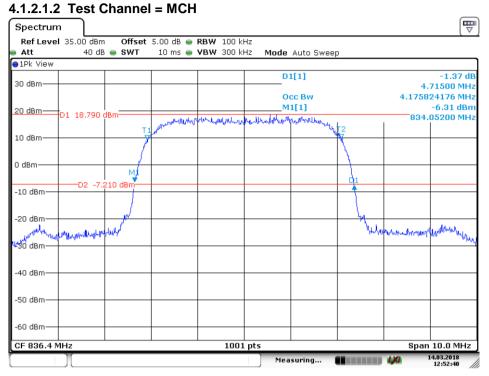
4.1.2.1 Test Mode = UMTS/TM1

4.1.2.1.1 Test Channel = LCH Ţ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 👄 RBW 100 kHz 40 dB 👄 SWT 10 ms 👄 **VBW** 300 kHz Mode Auto Sweep Att ●1Pk View D1[1] 1.81 dE 30 dBm 4.72500 MHz Occ Bw 4.165834166 MHz M1[1] -6.87 dBn 20 dBm-D1 18.880 uterhan Merturen when 824.04200 MH South Malastella dependence 10 dBm· 0 dBm--D2 -7.120 dBm -10 dBm--20 dBm للجريد white stanta -30 dBm -40 dBm -50 dBm -60 dBm-CF 826.4 MHz 1001 pts Span 10.0 MHz Measuring... 14.03.2018 12:53:22

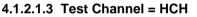
Date: 14.MAR.2018 12:53:22



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Date: 14.MAR.2018 12:52:40



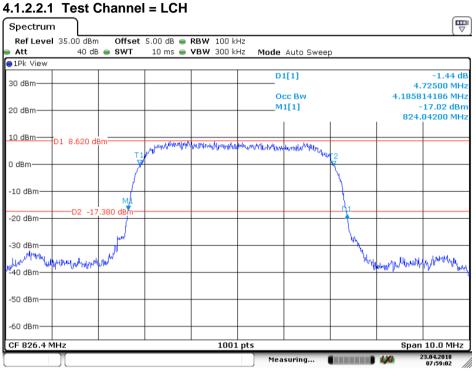


Date: 14.MAR.2018 12:51:57



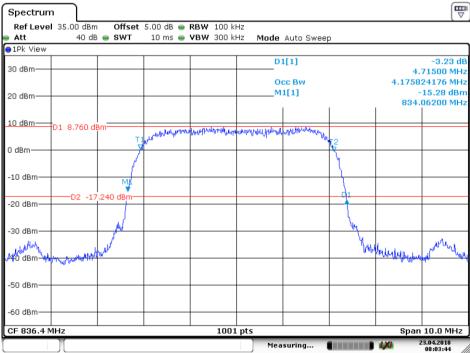
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4.1.2.2 Test Mode = UMTS/TM2



Date: 23.APR.2018 07:59:02

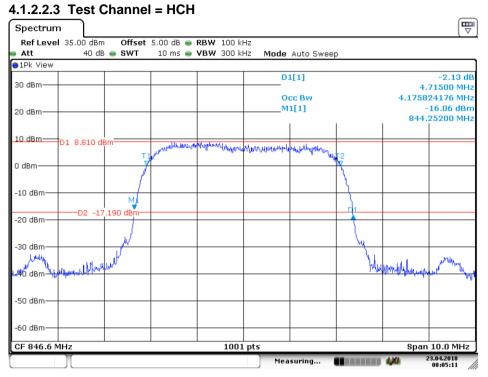
4.1.2.2.2 Test Channel = MCH



Date: 23.APR.2018 08:03:43



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Date: 23.APR.2018 08:05:11



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5 Band Edges Compliance

Part I - Test Plots

5.1 For WCDMA

5.1.1 Test Band = WCDMA1900

5.1.1.1 Test Mode = UMTS/TM1

5.1.1.1.1 Test Channel = LCH



Date: 14.MAR.2018 12:48:30



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5.1.1.1.2 Test Channel = HCH



Date: 14.MAR.2018 12:48:05

5.1.1.2 Test Mode = UMTS/TM2

5.1.1.2.1 Test Channel = LCH

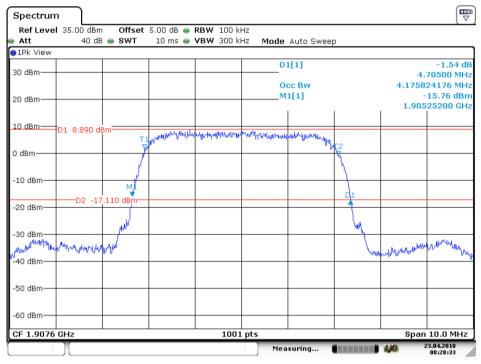


Date: 23.APR.2018 08:31:11



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5.1.1.2.2 Test Channel = HCH



Date: 23.APR.2018 08:28:33

5.1.2 Test Band = WCDMA850

5.1.2.1 Test Mode = UMTS/TM1

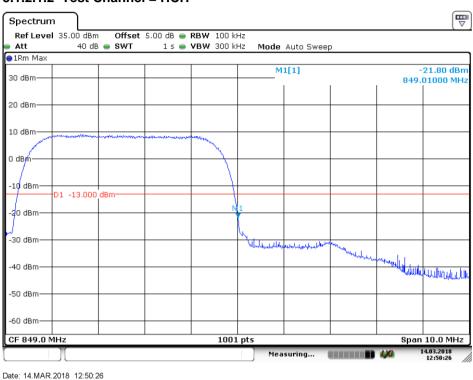
5.1.2.1.1 Test Channel = LCH



Date: 14.MAR.2018 12:49:59



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5.1.2.1.2 Test Channel = HCH

5.1.2.2 Test Mode = UMTS/TM2

5.1.2.2.1 Test Channel = LCH



Date: 23.APR.2018 08:09:41



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5.1.2.2.2 Test Channel = HCH

Date: 23.APR.2018 08:10:28



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6 Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k * (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Part I - Test Plots

6.1 For WCDMA

6.1.1 Test Band = WCDMA1900

6.1.1.1 Test Mode = UMTS/TM1

6.1.1.1.1 Test Channel = LCH

Spectrun	n									
Ref Leve	el 25.00) dBm	Offset	5.00 dB 👄	RBW 100 k	Hz				
Att	:	30 dB	S₩T	1.1 ms 👄	VBW 300 k	Hz Mode	Auto FFT			
⊖1Pk Max										
20 dBm		_				M	1[1]	1		52.96 dBm 1.3880 MHz
10 dBm		_								
0 dBm		_								
-10 dBm	-D1 -13	3.000	dBm							
-20 dBm		_								
-30 dBm		_								
-40 dBm		_								
-50 dBm		_							L.	M1
	na kalendere Malenderen	tinin na	apt da <mark>landaria di</mark> . Mina ^{mi} tangkanga	and the second second	phoneski jekalska popporodaljeka	The second second		And this actor		
-70 dBm										
Start 30.0	MHz				2000	1 pts				p 1.0 GHz
						Mea	suring		4/0	14.03.2018 13:24:12

Date: 14.MAR.2018 13:24:13



								R P	eport No age:	 SZEM180200119802 27 of 50
Spectrun	n									
	el 25.00 dBn		5.00 dB 👄							
Att 1Pk Max	3U QL	B 👄 SWT	30 ms 🖷	VBW 3 MHz	2 Mode A	uto Sweep				
ULEK Man					M	1[1]			-24.99 dBm	
20 dBm							I		933480 GHz	
10 dBm										
0 dBm										
-10 dBm—	D1 10 000									
-20 dBm—	D1 -13.000									
-30 dBm—	Ĩ									
-40 dBm—										
io abiii	المراجع والمراجع	المراجعة أعلى بالريان	and the second state of th	أتحر أطعراريهم	ALL AND A STREET	Provide States	والمتحرب والمتناف ومداجلون	al particular data	The straight	
Contrast (p) (T. C. C.	An and property of the second second	a dama sa ka	a second	A Design of the second s			al shift is differentias phone	ing the first of the second	and the second state of the second states	
-60 dBm—										
-70 dBm—										
Start 1.0 (GHz			2000	1 pts				0 10.0 GHz	
					Mea	asuring		470	14.03.2018 13:19:50	
Date: 14.MAR	8.2018 13:19:	50								
Spectrun										
Ref Leve Att	l 25.00 dBn 30 dB	n Offset B 🖷 SWT	5.00 dB 👄 30 ms 👄	RBW 1 MHz VBW 3 MHz		uto Sweep				
1Pk Max	25 44				- mous /					
20 dBm					M	1[1]			-37.09 dBm)70750 GHz	
10 dBm										
0 dBm										

-10 dBm-D1 -13.000 dBm -20 dBm -30 dBm· -40 dBm-Marrie Marrie است الم للارقاب 5 J. -50 dBm--60 dBm--70 dBm-20001 pts Stop 20.0 GHz Start 10.0 GHz 14.03.2018 13:23:43 Measuring...

Date: 14.MAR.2018 13:23:43



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Spectrum									[₩
Ref Level	25.00 dB	m Offs	set 5.00 dB 👄	RBW 100 k	Hz				
Att 🗧	30 0	dB 😑 SW	T 1.1 ms 👄	VBW 300 k	Hz Mode	Auto FFT			
●1Pk Max									
20 dBm					M	1[1]			52.47 dBm
20 0011						I	1	813	.4540 MHz
10 dBm									
0 dBm		-							
-10 dBm	D1 -13.00								
	DI -13.00								
-20 dBm									
-30 dBm		_							
-40 dBm									
-50 dBm								И1	
							.	L	and Marcal
and a shall	الحيارية الأورالي الم		reactions in a state of a state o	and more constraints to the		and the second second	The state is not it as	and the state of t	tuppedan prant
-oo dBm									
-70 dBm		+							
Start 30.0	MHz			2000	1 pts			Sto	p 1.0 GHz
)(suring			4.03.2018 13:25:47

6.1.1.1.2 Test Channel = MCH

Date: 14.MAR.2018 13:25:48

Spectrum	<u> </u>								
Ref Level	25.00 dBm	Offset	5.00 dB 👄	RBW 1 MHz	2				
Att 🗧	30 dB	👄 SWT	30 ms 👄	VBW 3 MHz	Mode A	uto Sweep			
⊖1Pk Max			_						
20 dBm					M	1[1]	I		20.18 dBm 59130 GHz
10 dBm									
0 dBm									
-10 dBm	D1 -13.000	dBm							
-20 dBm	11								
-30 dBm									
-40 dBm—			L. allanately	saad aakaa kaadd				a ta shi a sa sa ka	
الافطار فريالك أتريح ورك	addinated and the	دورال المراجعة معالما ويسلم ا المراجعة معامل مسيح		And the second	and the survey	Color Sector	dampers Retails and Las	histologica site	Contraction of the second s
and the state of the									
-60 dBm									
-70 dBm									
Start 1.0 G	Hz		1	2000	1 pts	1	1	Stop	10.0 GHz
][]					suring			14.03.2018 13:20:14

Date: 14.MAR.2018 13:20:14



Report No.: SZEM180200119802 Page: 29 of 50

Spectrum	<u> </u>								
Ref Level Att	25.00 dBm 30 dB	Offset SWT		RBW 1 MHz VBW 3 MHz		uto Sweep			
⊖1Pk Max									
20 dBm					M	1[1]	1		38.84 dBm 08760 GHz
10 dBm									
0 dBm									
-10 dBm	D1 -13.000	dBm							
-20 dBm									
-30 dBm									
-40 dBm	ور و بالغام و	ىلەر يار	المتعادية المعاد	Maria and Maria and Maria	and an and the	Internation of the second	aller, and in South Lot	la landi da tami kilo yana k	M1
-50 dBm		and a state of the second s		W. Carlotte and the other	internation of the party series of the	the second second		feder, states to be a set of	Here and a life and
-60 dBm									
-70 dBm									
Start 10.0	GHz			20001	lpts			Ston	20.0 GHz
	Υ					suring			4.03.2018

Date: 14.MAR.2018 13:21:11

6.1.1.1.3 Test Channel = HCH

Spectrun	٦									
Ref Leve				et 5.00 dB 👄						
Att 1Pk Max		30 dB	⊜ S₩T	1.1 ms 👄	VBW 300 k	Hz Mode	Auto FFT			
20 dBm						м	1[1]			-53.04 dBm 1.6240 MHz
10 dBm		_								
0 dBm		_								
-10 dBm	D1 -13	3.000	dBm							
-20 dBm		-								
-30 dBm		_								
-40 dBm—		_								
-50 dBm		_								M1
dt dt	land in an bi			a da da ante d Ante da ante da		111	ibandi balani Ang ang			
-70 dBm										
Start 30.0	MHz			1	2000	1 pts	1	1	St	op 1.0 GHz
						Mea	suring		1/0	14.03.2018 13:26:52

Date: 14.MAR.2018 13:26:53



										: SZEM180200119802
								Pa	age:	30 of 50
Spectru	ım									
Ref Lev e Att	el 25.00 dB/ 30 d	m Offset B e SWT		RBW 1 MHz VBW 3 MHz		Auto Sweep				
⊖1Pk Max	:									
20 dBm—					M	11[1]	1		20.02 dBm 87930 GHz	
10 dBm—										
0 dBm										
-10 dBm—	D1 -13.00	0 dBm								
-20 dBm—	M1									
-30 dBm—										
-40 dBm—			و بعلقه فالدر بع	والمعالية المعالية المعالية	and Halling and a second		bata ta dikanak sa asila aa	e ment lla mala	Manager and the Late	
Application of the second	er i de la tel que da	A second se	a fatinte the substances	the part of the sport of the	(and a substitution of the sub-	In the second	- Harristan (Jan)		Printed and the second	
and distant.										
-60 dBm—										
-70 dBm—										
Start 1.0) GHz			2000	1 pts				10.0 GHz	
					Mea	asuring		4/0	14.03.2018 13:20:32	
Date: 14.MA	R.2018 13:20	:32								

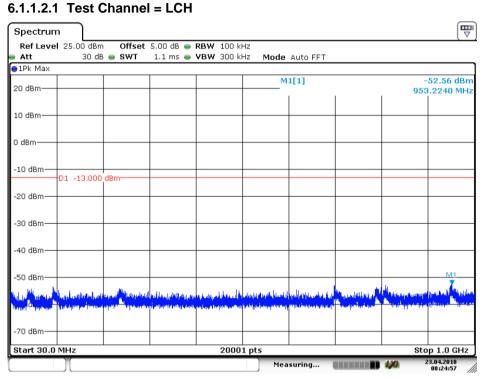
Spectrum Ref Level 25.00 dBm Offset 5.00 dB 👄 RBW 1 MHz Att 30 dB 😑 SWT 30 ms 👄 **VBW** 3 MHz Mode Auto Sweep ●1Pk Max M1[1] -38.29 dBm 20 dBm-19.975750 GHz 10 dBm 0 dBm--10 dBm-01 -13.000 dBm--20 dBm -30 dBm--40 dBm والمرواط فيشرون الار بالار -50 dBm--60 dBm--70 dBm-Start 10.0 GHz 20001 pts Stop 20.0 GHz 14.03.2018 13:20:51 Measuring...

Date: 14.MAR.2018 13:20:52

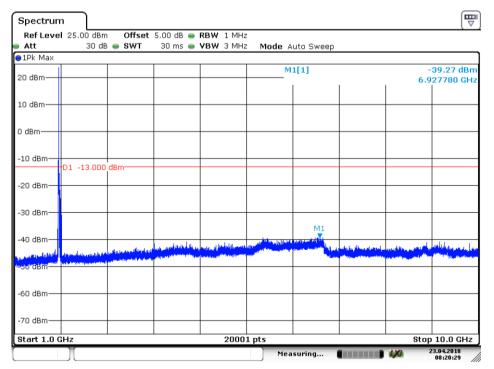


Report No.: SZEM180200119802 Page: 31 of 50

6.1.1.2 Test Mode = UMTS/TM2



Date: 23.APR.2018 08:24:58



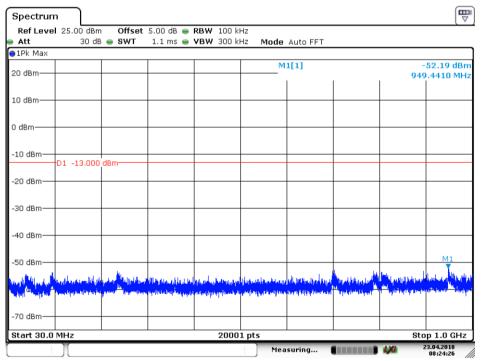
Date: 23.APR.2018 08:20:28



										: SZEM180200119802
								Г	age:	32 of 50
Spectrun	n									
Ref Leve	25.00 dBm		5.00 dB 👄	RBW 1 MHz	2					
🗕 Att	30 dB	SWT 😑	30 ms 👄	VBW 3 MHz	Mode A	uto Sweep.				
⊖1Pk Max										
20 dBm					M	1[1]	1		38.77 dBm 16760 GHz	
10 dBm										
0 dBm										
-10 dBm—	D1 -13.000	dBm								
-20 dBm—										
-30 dBm—										
-40 dBm	lake con		اللوال ويعالوان رو	أنشروا والفريدان والم	and the state of the second	the man the states	ato a laborar o confar id a	an and a law, star		
and the second secon			ing and the second second	Name of Contract of State	Ng Astheburg The other	Children and a	All and the second second	Designer and the second	the second second	
-50 dBm										
-60 dBm—										
-70 dBm—										
Start 10.0	GHz	1		2000	1 pts	1	1	Stop	20.0 GHz	
)[Mea	suring			23.04.2018 08:20:50	

Date: 23.APR.2018 08:20:50

6.1.1.2.2 Test Channel = MCH



Date: 23.APR.2018 08:24:27



										.: SZEM180200119802
								Р	age:	33 of 50
Spectrur	n									
	el 25.00 dE	m Offset	5.00 dB 👄	RBW 1 MH;	z				(*)	
e Att		db 😑 SWT		VBW 3 MH:		Auto Sweep	5			
⊖1Pk Max										
20 dBm					M	11[1]	1		-39.53 dBm 348280 GHz	
10 dBm										
0 dBm										
-10 dBm—	-D1 -13.00	0 dBm								
-20 dBm—										
-30 dBm—										
-40 dBm—					M1				6.1	
لسمعاطين	a demastration	ويتعاد والمراجع المراجع	a de la constitución de la constitu Constitución de la constitución de l	a de la presidente de la companya d La companya de la comp	California and California	The second s	an a			
w	and a first state of the second									
-60 dBm—										
-70 dBm—										
Start 1.0	CH3			2000	1 ntc				p 10.0 GHz	
				2000		asuring			23.04.2018	
									08:21:56	

Date: 23.APR.2018 08:21:56

Spectrum	'n										
Ref Level Att	25.00 dBm 30 dB	Offset SWT		RBW 1 MHz VBW 3 MHz		uto Sweep.			``````````````````````````````````		
●1Pk Max											
20 dBm M1[1]								-37.92 dB 19.936250 GF			
10 dBm											
0 dBm											
-10 dBm	D1 -13.000	dBm									
-20 dBm											
-30 dBm											
-40 dBm	العربي المتعادين	ياملون والأطليس و	المرابع المرابع	د. در اندروه المحمد والي ما	tin light pin the point		المرادية (10 مار ال	an a the Astron Har and a M	M.		
-50 dBm			The second s	Ing a providence and form	and the second			(Notices and Aspect			
-60 dBm											
-70 dBm											
Start 10.0	GHz			2000	1 pts			Stop	20.0 GHz		
][]					suring			23.04.2018 08:21:32		

Date: 23.APR.2018 08:21:32



Report No.: SZEM180200119802 Page: 34 of 50

6.1.1.2.3 Test Channel = HCH

Spectrun	n								
	l 25.00 dBr		5.00 dB 👄						
Att 🗧	30 di	B 😑 SWT	1.1 ms 👄	VBW 300 k	Hz Mode	Auto FFT			
⊖1Pk Max									
20 dBm					M	1[1]			53.24 dBm 0.5630 MHz
						1		209	.3030 MHZ
10 dBm									
0 dBm									
-10 dBm—									
	D1 -13.000) dBm							
-20 dBm—									
-30 dBm									
-40 dBm—									
-50 dBm		M1							
H.H. H.	un appendiate	de la contratale	and Horse and your	المالة ومرمة الأليابة	na cegletarróla	Ushatiahaala	Handala	- deputation bea	arlatta <mark>baaal</mark>
Jerris Grander	i prinstrati i si mu	inter termine	a spinner person	ander besther liebelet	NICONSULTATIÓN A	and the state of the	The second second	and the second	
-70 dBm—									
Start 30.0	MHz			2000	1 pts			Sto	p 1.0 GHz
						suring			23.04.2018 08:23:54
Date: 23.APR.	.2018 08:23:4	54							
Ref Leve	l 25.00 dBr	n Offset	5.00 dB 👄	RBW 1 MHz	:				
Att 🗧	30 di	B 👄 SWT	30 ms 👄	УВЖ З МНа	Mode A	uto Sweep.			
⊖1Pk Max									
20 dBm					M	1[1]	1		39.62 dBm 55680 GHz
10 dBm									
0 dBm									
		1							

20001 pts

Date: 23.APR.2018 08:22:52

-10 dBm-

-20 dBm

-30 dBm-

40 dBm

-60 dBm

-70 dBm-

Start 1.0 GHz

D1 -13.000 dBm-

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М1

Measuring...

•••••

and d

Stop 10.0 GHz

23.04.2018 08:22:52

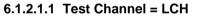


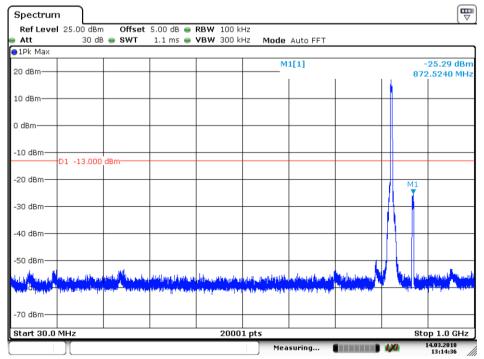
Guestin									eport No age:	.: SZEM180200119802 35 of 50
Spectrum										
Att	25.00 dBm 30 dB		5.00 dB 👄 1 30 ms 👄 1	VBW 3 MHz		uto Sweep				
●1Pk Max						atto enteop				
20 dBm					M	1[1]	1		38.35 dBm 46250 GHz	
10 dBm										
0 dBm										
-10 dBm	D1 -13.000	dBm								
-20 dBm										
-30 dBm										
-40 dBm		a an <mark>ala</mark> dela		ole, he particular di	New York Road Street Barriers	antes antes and	to alternation of the	and a contrary of the	Mi Ni Ni Mi ni	
-50 dBm	and the second second		Manual Contractors		i feili i berren bir finn	and day stated and all the	- and a part of the second	ului)	to other free free	
-60 dBm										
-70 dBm										
Start 10.0	GHz			2000	1 pts			Stop	20.0 GHz	
][]					suring		· · ·	23.04.2018 08:23:16	

Date: 23.APR.2018 08:23:16

6.1.2 Test Band = WCDMA850

Test Mode = UMTS/TM1 6.1.2.1





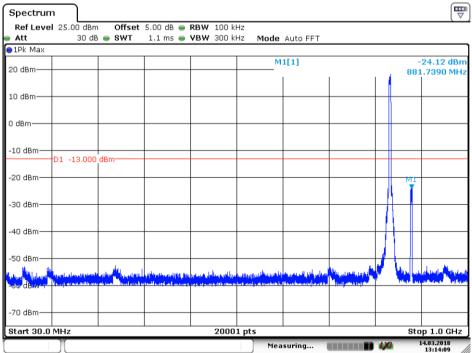
Date: 14.MAR.2018 13:14:37



									: SZEM180200119802
							Pa	age:	36 of 50
Spectrun									
e Att	l 25.00 dBm 30 dB	SWT	5.00 dB 👄	VBW 1 MH2 VBW 3 MH2		uto Sweep			
1Pk Max		• • • • •			- mode -				
20 dBm					M	1[1]		39.65 dBm 54940 GHz	
10 dBm									
0 dBm									
-10 dBm									
-20 dBm	D1 -13.000	dBm							
-30 dBm									
M1 -40 dBm					, Madata (at shifts)				
العام ومعاول من العام معدو	econd http://www.	and the second		Nasang di Kabulan Ing Ma		A Development of the other states		hand at least go by the second se	
-60 dBm									
-70 dBm—									
Start 1.0 0	GHz			2000	1 pts			10.0 GHz	
					Mea	suring	L)0	14.03.2018 13:15:07	

Date: 14.MAR.2018 13:15:07

6.1.2.1.2 Test Channel = MCH



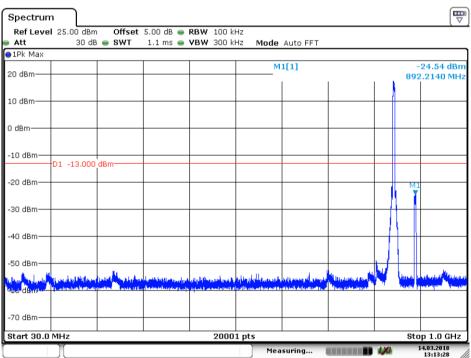
Date: 14.MAR.2018 13:14:09



									age:	: SZEM180200119802 37 of 50
Spectrun	n									
	25.00 dBm		5.00 dB 😑							
Att	30 dB	SWT	30 ms 😑	VBW 3 MHz	Mode A	uto Sweep				
●1Pk Max			1						-39.05 dBm	
20 dBm						1[1]	I		-39.05 dBm 670690 GHz	
10 dBm										
0 dBm										
-10 dBm—	D1 -13.000	dBm								
-20 dBm										
-30 dBm										
-40 dBm					Londo Hilesonial	Nana mandrata Din				
والافتظ ومرود والمحمد وساو	الماليسة فيترق ويتعافد	ALL BURGERS	lind ann an thaird ann ann an thaird ann a' san a' san Ann a' san a'	an a schemment	And Street publicate	and in the state of the state of the	Managinah dapin Tahun kuta	ang a Pilipaga ank N	i the telestation of telestatio	
a fa an an tao an		and a second	deline i ded	a Maria a series a s	1	ilea.	intheory interaction in	a se		
-60 dBm										
-70 dBm										
Start 1.0 0	GHz			2000	1 pts			Sto	p 10.0 GHz	
][]				· .	suring			14.03.2018 13:17:10	

Date: 14.MAR.2018 13:17:11

6.1.2.1.3 Test Channel = HCH



Date: 14.MAR.2018 13:13:28

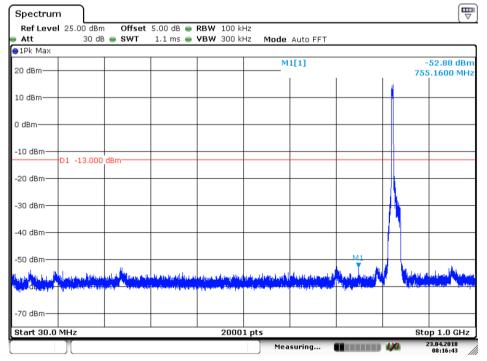


									Report No. Page:	: SZEM180200119802 38 of 50
Spectrum	n)									
Ref Level	25.00 dBm	Offset	5.00 dB 👄	RBW 1 MHz						
Att	30 dB	SWT	30 ms 😑	VBW 3 MHz	Mode A	uto Sweep				
●1Pk Max			1							
20 dBm					M	1[1]	1	ı	-38.19 dBm 1.695890 GHz	
10 dBm										
0 dBm										
-10 dBm	D1 -13.000	dBm								
-20 dBm										
-30 dBm										
-40 dBm			ر با مقامه تداما جور . بر ان	والمراول واللواري ورواوي			la natar carat	la attaca an	and a statistic program in the	
-50 dBm	and a strange of the set of the s					···· 🛰				
-60 dBm										
-70 dBm										
Start 1.0 G	Hz			2000	1 nts			<u> </u>	top 10.0 GHz	
][]			2000.		suring			14.03.2018 13:18:31	

Date: 14.MAR.2018 13:18:31

6.1.2.2 Test Mode = UMTS/TM2

6.1.2.2.1 Test Channel = LCH



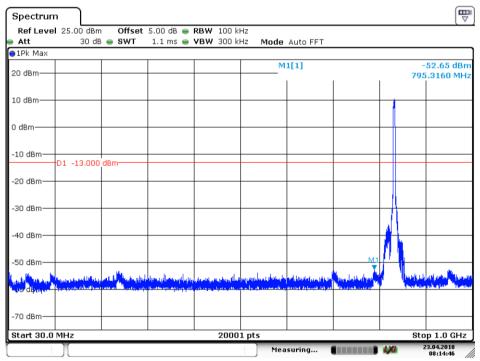
Date: 23.APR.2018 08:16:44



								R	eport No.	: SZEM180200119802
								Pa	age:	39 of 50
Spectrun Ref Leve	n I 25.00 dBm	Offset	5.00 dB 👄	RBW 1 MHz	2					
🖷 Att		e swt		УВЖ З МНа		uto Sweep				
⊖1Pk Max										
20 dBm					M	1[1]	1		39.58 dBm 39790 GHz	
10 dBm										
0 dBm										
-10 dBm	-D1 -13.000	dBm								
-20 dBm										
-30 dBm										
-40 dBm		a satul	ور و و الم	te. La resilte dansfil		M1	and a state of the second second		and dute to dec to decad	
aladaa kata daa	مستنسى الوالعا الاردى	Terrent in Filmen	and the first section of the same	Alexandra de antes de	11 11 11 11 11 11 11 11 11 11 11 11 11		and a second second second second	Seattle seattle state	Alter Distance Strengthe	
∿oorabm ^{inter}										
-60 dBm—										
-70 dBm—										
Start 1.0 (GHz			2000	1 pts			· · ·	0 10.0 GHz	
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Date: 23.APR.2018 08:17:25

6.1.2.2.2 Test Channel = MCH



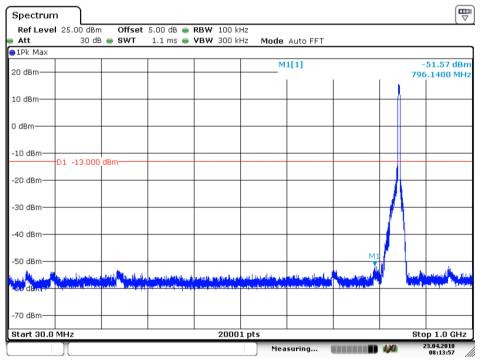
Date: 23.APR.2018 08:14:46



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Spectrun	n I 25.00 dBm	0#+	5.00 dB 👄							
er Leve		SWT		VBW 3 MHz		uto Sweep				
1Pk Max		•••••			- mode -					
20 dBm					M	1[1]			38.62 dBm 70690 GHz	
10 dBm										
0 dBm										
-10 dBm										
-20 dBm	D1 -13.000	dBm								
-30 dBm										
M1 -40 dBm										
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-60 dBm										
-70 dBm										
Start 1.0 0	GHz			2000	1 pts				10.0 GHz	
					Mea	suring		L)a	23.04.2018 08:18:01	

Date: 23.APR.2018 08:18:02

6.1.2.2.3 Test Channel = HCH



Date: 23.APR.2018 08:13:58



Spectrum Ref Level	25.00 dBm	Offect	5.00 dB 👄 1	200W 1 M⊔					Report No Page:	.: SZEM180200119802 41 of 50
Att	23.00 UBIN 30 dB			VBW 3 MHz		uto Sweep				
●1Pk Max										
20 dBm					M	1[1]	1	1	-39.99 dBm .695440 GHz	
10 dBm										
0 dBm										
-10 dBm)1 -13.000	dBm								
-20 dBm										
-30 dBm									_	
M1 -40 dBm			A STATE OF CONTRACTOR OF CONTRACTOR	المتعرية الأطالة ومعا			فرالبوا والعام ورواعال			
1-50 dBm										
-60 dBm										
-70 dBm										
Start 1.0 GF	lz			2000:	1 pts		I	St	op 10.0 GHz	
)[]				Mea	suring		L)0	23.04.2018 08:19:37	

Date: 23.APR.2018 08:19:37

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7 Field Strength of Spurious Radiation

Part I - Test Results

7.1 For WCDMA

7.1.1 Test Band = WCDMA1900

7.1.1.1 Test Mode = UMTS/TM1

7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
75.000000	-70.00	-13.00	57.00	Vertical
832.754167	-69.76	-13.00	56.76	Vertical
1287.500000	-48.80	-13.00	35.80	Vertical
2668.000000	-44.70	-13.00	31.70	Vertical
3812.662500	-55.46	-13.00	42.46	Vertical
6468.562500	-53.43	-13.00	40.43	Vertical
55.750000	-68.43	-13.00	55.43	Horizontal
191.550000	-76.59	-13.00	63.59	Horizontal
1503.000000	-45.98	-13.00	32.98	Horizontal
2744.500000	-44.89	-13.00	31.89	Horizontal
4433.737500	-54.53	-13.00	41.53	Horizontal
6481.237500	-52.80	-13.00	39.80	Horizontal

7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
72.050000	-70.89	-13.00	57.89	Vertical
84.100000	-71.41	-13.00	58.41	Vertical
1530.500000	-46.02	-13.00	33.02	Vertical
3758.550000	-56.46	-13.00	43.46	Vertical
6077.587500	-53.32	-13.00	40.32	Vertical
9833.775000	-52.37	-13.00	39.37	Vertical
56.050000	-67.64	-13.00	54.64	Horizontal
787.562500	-70.56	-13.00	57.56	Horizontal
1531.500000	-44.86	-13.00	31.86	Horizontal
3761.475000	-56.65	-13.00	43.65	Horizontal
5694.900000	-53.68	-13.00	40.68	Horizontal
8613.562500	-51.71	-13.00	38.71	Horizontal



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Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
32.850000	-71.13	-13.00	58.13	Vertical
72.050000	-69.78	-13.00	56.78	Vertical
792.879167	-69.08	-13.00	56.08	Vertical
1558.500000	-46.36	-13.00	33.36	Vertical
3813.637500	-54.59	-13.00	41.59	Vertical
8001.750000	-52.77	-13.00	39.77	Vertical
63.650000	-68.48	-13.00	55.48	Horizontal
790.266667	-70.84	-13.00	57.84	Horizontal
1558.000000	-43.63	-13.00	30.63	Horizontal
3745.875000	-56.17	-13.00	43.17	Horizontal
6575.812500	-53.10	-13.00	40.10	Horizontal
9307.275000	-51.70	-13.00	38.70	Horizontal

7.1.1.1.3 Test Channel = HCH

7.1.2 Test Band = WCDMA850

7.1.2.1 Test Mode = UMTS/TM1

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
75.000000	-72.94	-13.00	59.94	Vertical
104.250000	-72.16	-13.00	59.16	Vertical
1654.500000	-57.19	-13.00	44.19	Vertical
3302.250000	-64.93	-13.00	51.93	Vertical
6027.862500	-65.26	-13.00	52.26	Vertical
9265.350000	-63.96	-13.00	50.96	Vertical
62.900000	-78.33	-13.00	65.33	Horizontal
104.300000	-78.53	-13.00	65.53	Horizontal
171.050000	-82.15	-13.00	69.15	Horizontal
1654.500000	-58.79	-13.00	45.79	Horizontal
3308.100000	-66.68	-13.00	53.68	Horizontal
6687.937500	-65.58	-13.00	52.58	Horizontal



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Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization							
75.000000	-72.08	-13.00	59.08	Vertical							
104.300000	-71.99	-13.00	58.99	Vertical							
1674.500000	-59.94	-13.00	46.94	Vertical							
3342.712500	-65.83	-13.00	52.83	Vertical							
4304.062500	-66.76	-13.00	53.76	Vertical							
7938.862500	-64.02	-13.00	51.02	Vertical							
55.950000	-78.23	-13.00	65.23	Horizontal							
75.000000	-77.68	-13.00	64.68	Horizontal							
104.300000	-78.87	-13.00	65.87	Horizontal							
1674.500000	-60.77	-13.00	47.77	Horizontal							
3340.762500	-67.63	-13.00	54.63	Horizontal							
6262.350000	-65.53	-13.00	52.53	Horizontal							

7.1.2.1.1 Test Channel = MCH

7.1.2.1.2 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
72.000000	-76.16	-13.00	63.16	Vertical
104.250000	-71.49	-13.00	58.49	Vertical
1691.500000	-57.30	-13.00	44.30	Vertical
3383.175000	-62.26	-13.00	49.26	Vertical
5073.337500	-65.84	-13.00	52.84	Vertical
7961.287500	-63.95	-13.00	50.95	Vertical
56.000000	-77.93	-13.00	64.93	Horizontal
72.050000	-77.56	-13.00	64.56	Horizontal
104.300000	-78.63	-13.00	65.63	Horizontal
1691.500000	-58.70	-13.00	45.70	Horizontal
3383.175000	-65.38	-13.00	52.38	Horizontal
6141.450000	-65.54	-13.00	52.54	Horizontal

NOTE:

- 1) The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
- 2) We tested all modulation, but only the worst case data displayed in this report.



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8 Frequency Stability

8.1 Frequency Error VS. Voltage

Part I - Test Results

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				VL	0.73	0.000388	PASS
		LCH	TN	VN	-7.09	-0.003716	PASS
				VH	15.44	0.008091	PASS
				VL	14.84	0.007780	PASS
	UMTS/TM1	MCH	TN	VN	8.19	0.009910	PASS
				VH	6.70	0.008110	PASS
		НСН		VL	15.36	0.018591	PASS
			TN	VN	0.73	0.000388	PASS
WCDMA				VH	-7.09	-0.003716	PASS
1900		LCH	TN	VL	10.70	0.005776	PASS
				VN	6.24	0.003318	PASS
				VH	10.56	0.005619	PASS
				VL	0.73	0.000388	PASS
	UMTS/TM2	MCH	TN	VN	-7.09	-0.003716	PASS
				VH	15.44	0.008091	PASS
		НСН		VL	14.84	0.007780	PASS
			TN	VN	8.19	0.009910	PASS
				VH	6.70	0.008110	PASS



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					Fage. 40 01 50				
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
		LCH	TN	VL	0.58	0.000701	PASS		
				VN	0.11	0.000138	PASS		
				VH	0.03	0.000035	PASS		
		МСН	TN	VL	-0.55	-0.000658	PASS		
	UMTS/TM1			VN	-0.81	-0.000966	PASS		
				VH	-0.20	-0.000239	PASS		
		НСН	TN	VL	-0.99	-0.001174	PASS		
				VN	-0.08	-0.000093	PASS		
WCDMA				VH	-0.99	-0.001166	PASS		
850	UMTS/TM2	LCH	TN	VL	0.24	0.000286	PASS		
				VN	0.21	0.000260	PASS		
				VH	12.13	0.014679	PASS		
		МСН	TN	VL	-1.77	-0.002146	PASS		
				VN	-18.95	-0.022927	PASS		
				VH	3.45	0.004122	PASS		
		нсн	TN	VL	16.83	0.020122	PASS		
				VN	9.99	0.011947	PASS		
				VH	19.91	0.023808	PASS		



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8.2 Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-30	-4.73	-0.00255	PASS
				-20	1.60	0.00086	PASS
				-10	0.67	0.00036	PASS
				0	-2.68	-0.00145	PASS
		LCH	VN	10	0.56	0.00030	PASS
				20	-4.80	-0.00259	PASS
				30	1.60	0.00086	PASS
	UMTS/TM1			40	-0.04	-0.00002	PASS
				50	-6.01	-0.00324	PASS
		МСН	VN	-30	-3.80	-0.00202	PASS
				-20	-5.08	-0.00270	PASS
				-10	-0.39	-0.00021	PASS
NCDMA				0	-3.38	-0.00180	PASS
1900				10	1.31	0.00070	PASS
1900				20	2.72	0.00145	PASS
				30	1.61	0.00086	PASS
				40	0.13	0.00007	PASS
				50	-4.35	-0.00231	PASS
		НСН	VN	-30	-0.17	-0.00009	PASS
				-20	3.68	0.00193	PASS
				-10	2.55	0.00134	PASS
				0	-5.52	-0.00289	PASS
				10	1.57	0.00082	PASS
				20	-2.78	-0.00146	PASS
				30	3.64	0.00191	PASS
				40	-0.63	-0.00033	PASS
				50	-4.60	-0.00241	PASS



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		Fage. 40 01 50						
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
			VN	-30	-2.49	-0.00134	PASS	
		LCH		-20	1.96	0.00106	PASS	
				-10	-5.97	-0.00322	PASS	
				0	0.50	0.00027	PASS	
				10	-5.65	-0.00305	PASS	
				20	-4.11	-0.00222	PASS	
				30	-3.96	-0.00214	PASS	
				40	-5.71	-0.00308	PASS	
				50	-2.74	-0.00148	PASS	
	UMTS/TM2	МСН	VN	-30	-1.94	-0.00103	PASS	
				-20	3.29	0.00175	PASS	
				-10	-4.34	-0.00231	PASS	
WCDMA				0	1.76	0.00094	PASS	
1900				10	-5.10	-0.00271	PASS	
1900				20	-3.43	-0.00182	PASS	
				30	-2.13	-0.00113	PASS	
				40	-3.00	-0.00160	PASS	
				50	-0.50	-0.00027	PASS	
		нсн	VN	-30	-3.25	-0.00170	PASS	
				-20	-6.34	-0.00332	PASS	
				-10	-2.73	-0.00143	PASS	
				0	-5.34	-0.00280	PASS	
				10	1.07	0.00056	PASS	
				20	-4.03	-0.00211	PASS	
				30	-3.22	-0.00169	PASS	
				40	-2.84	-0.00149	PASS	
				50	-5.07	-0.00266	PASS	

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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
		LCH	VN	-30	0.29	0.000342	PASS
				-20	-0.07	-0.000086	PASS
				-10	0.09	0.000111	PASS
				0	-0.22	-0.000265	PASS
				10	0.19	0.000231	PASS
				20	-0.16	-0.000188	PASS
				30	-0.93	-0.001112	PASS
				40	-0.39	-0.000465	PASS
				50	-1.17	-0.001386	PASS
	UMTS/TM1		VN	-30	-0.34	-0.000406	PASS
		МСН		-20	-0.69	-0.000820	PASS
				-10	-0.50	-0.000591	PASS
WCDMA				0	-1.33	-0.001571	PASS
850				10	-0.94	-0.001107	PASS
000				20	-0.69	-0.000811	PASS
				30	-0.57	-0.000667	PASS
				40	0.29	0.000342	PASS
				50	-0.07	-0.000086	PASS
		НСН	VN	-30	0.09	0.000111	PASS
				-20	-0.22	-0.000265	PASS
				-10	0.19	0.000231	PASS
				0	-0.16	-0.000188	PASS
				10	-0.93	-0.001112	PASS
				20	-0.39	-0.000465	PASS
				30	-1.17	-0.001386	PASS
				40	-0.34	-0.000406	PASS
				50	-0.69	-0.000820	PASS



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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
			VN	-30	1.19	0.001437	PASS	
		LCH		-20	0.23	0.000277	PASS	
				-10	0.67	0.000814	PASS	
				0	0.58	0.000701	PASS	
				10	0.67	0.000805	PASS	
				20	-0.23	-0.000277	PASS	
				30	0.20	0.000242	PASS	
				40	0.54	0.000649	PASS	
				50	0.08	0.000095	PASS	
	UMTS/TM2	МСН	VN	-30	-0.06	-0.000068	PASS	
				-20	0.02	0.000026	PASS	
				-10	0.29	0.000342	PASS	
WCDMA				0	-0.07	-0.000086	PASS	
850				10	0.09	0.000111	PASS	
000				20	-0.22	-0.000265	PASS	
				30	0.19	0.000231	PASS	
				40	-0.16	-0.000188	PASS	
				50	-0.93	-0.001112	PASS	
		нсн	VN	-30	-0.39	-0.000465	PASS	
				-20	1.19	0.001437	PASS	
				-10	0.23	0.000277	PASS	
				0	0.67	0.000814	PASS	
				10	-0.39	-0.000465	PASS	
				20	-1.17	-0.001386	PASS	
				30	-0.34	-0.000406	PASS	
				40	-0.69	-0.000820	PASS	
				50	-0.39	-0.000465	PASS	

The End

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