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Appendix B

Test Data for SZEM161201075001RG



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1 Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	ERP[dB]	Limit[dBm]	Verdict
	GSM/TM1	LCH	33.34	33.45	38.45	PASS
		MCH	33.31	33.42	38.45	PASS
0.014.050		HCH	33.32	33.43	38.45	PASS
GSM 850	GSM/TM2	LCH	26.90	27.01	38.45	PASS
		MCH	27.00	27.11	38.45	PASS
		HCH	27.10	27.21	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]

- b: SGP=Signal Generator Level
- c: RBW > emission bandwidth, VBW > $3 \times RBW$.

Detector: RMS

Test Band	Test Mode	Test Channel	Measured[dB]	EIRP[dB]	Limit[dBm]	Verdict
	GSM/TM1	LCH	30.62	32.85	33	PASS
		MCH	30.53	32.76	33	PASS
0.014 1000		HCH	30.59	32.82	33	PASS
GSM 1900	GSM/TM2	LCH	26.12	28.35	33	PASS
		MCH	26.33	28.56	33	PASS
		НСН	26.55	28.78	33	PASS

Note:

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

EIRP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBi] b: SGP=Signal Generator Level c: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS

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2 Peak-to-Average Ratio

Part I - Test Results							
Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict		
	GSM/TM1	LCH	6.38	13	PASS		
		MCH	6.38	13	PASS		
GSM 850		НСН	6.46	13	PASS		
GSW 050	GSM/TM2	LCH	8.35	13	PASS		
		MCH	8.78	13	PASS		
		НСН	8.23	13	PASS		
	GSM/TM1	LCH	6.41	13	PASS		
		MCH	6.38	13	PASS		
GSM 1900		НСН	6.70	13	PASS		
GSIVI 1900	GSM/TM2	LCH	8.32	13	PASS		
		MCH	8.23	13	PASS		
		НСН	8.29	13	PASS		



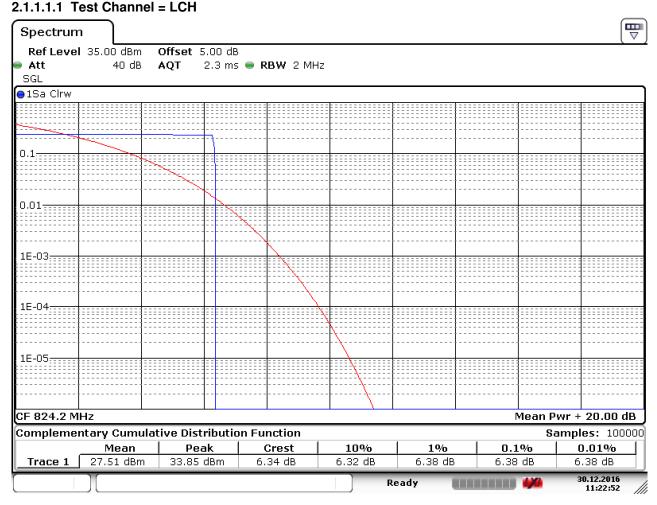
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Part II - Test Plots

2.1 For GSM

2.1.1 Test Band = GSM 850

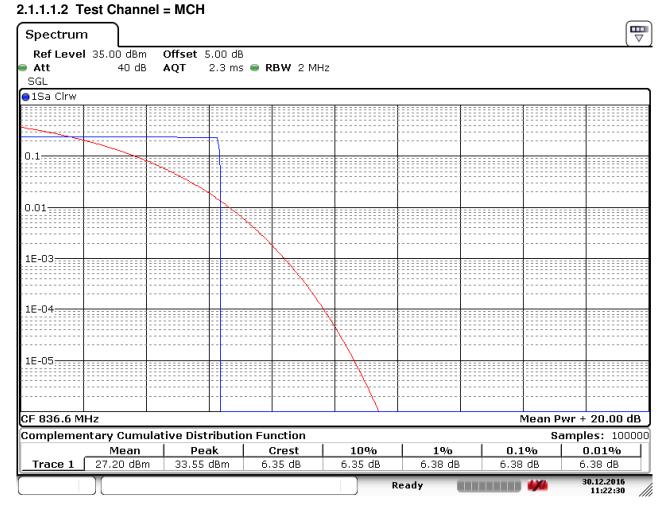
2.1.1.1 Test Mode = GSM/TM1



Date: 30.DEC.2016 11:22:52



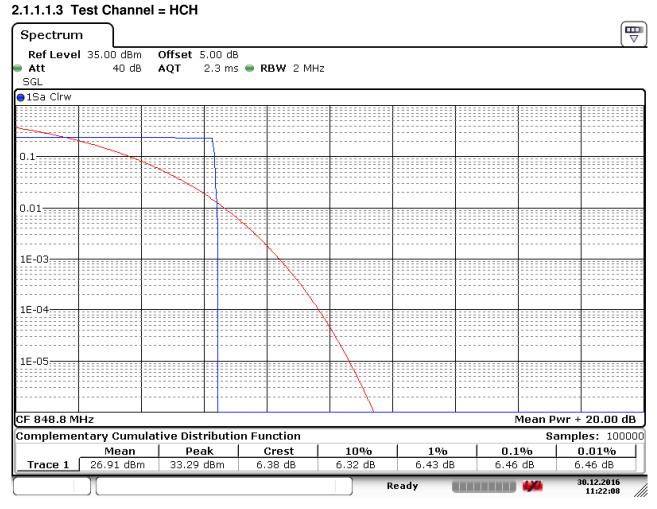
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Date: 30.DEC.2016 11:22:08



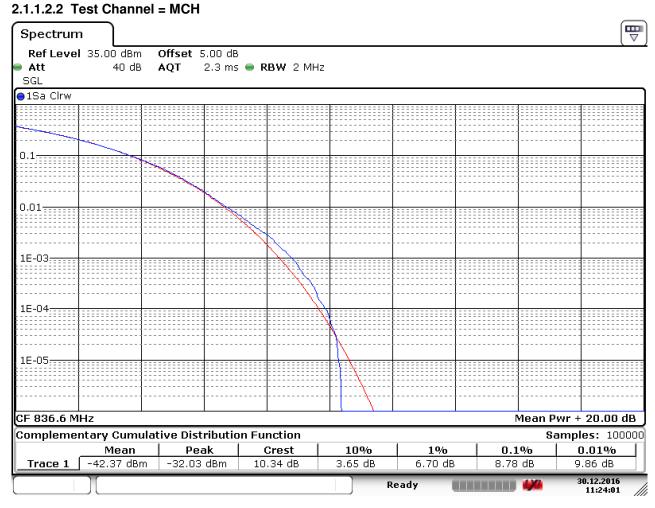
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2.1.1.2 Test Mode = GSM/TM2 2.1.1.2.1 Test Channel = LCH ∀ Spectrum Ref Level 35.00 dBm Offset 5.00 dB Att 40 dB AQT 2.3 ms 👄 RBW 2 MHz SGL o1Sa Clrw 0.1 0.01 1E-03; 1E-04 1E-05; CF 824.2 MHz Mean Pwr + 20.00 dB Complementary Cumulative Distribution Function Samples: 100000 Mean Peak Crest 10%1% 0.1%0.01%10.09 dB Trace 1 -42.49 dBm -32.39 dBm 3.65 dB 6.64 dB 8.35 dB 9.65 dB 30.12.2016 Ready 11:23:38

Date: 30.DEC.2016 11:23:38



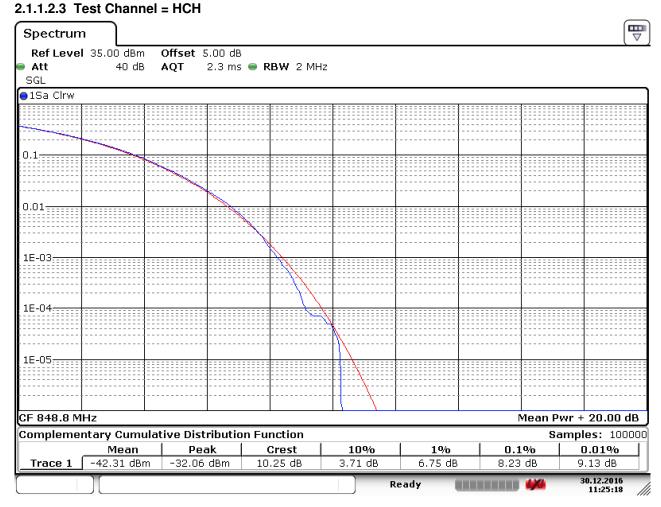
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Date: 30.DEC.2016 11:24:01



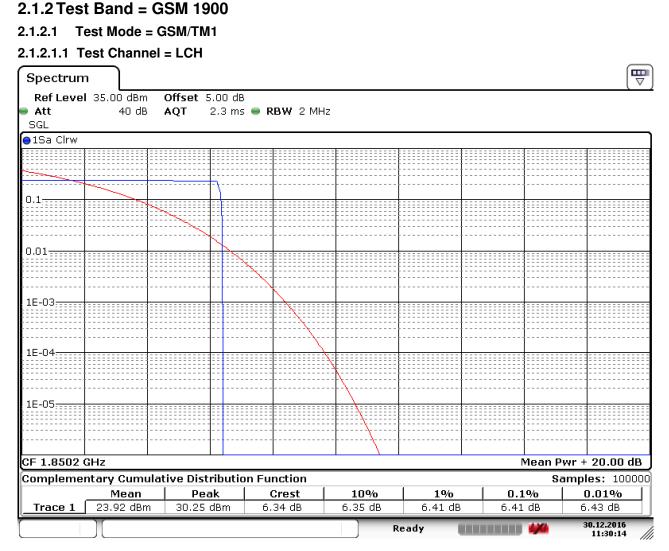
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Date: 30.DEC.2016 11:25:18



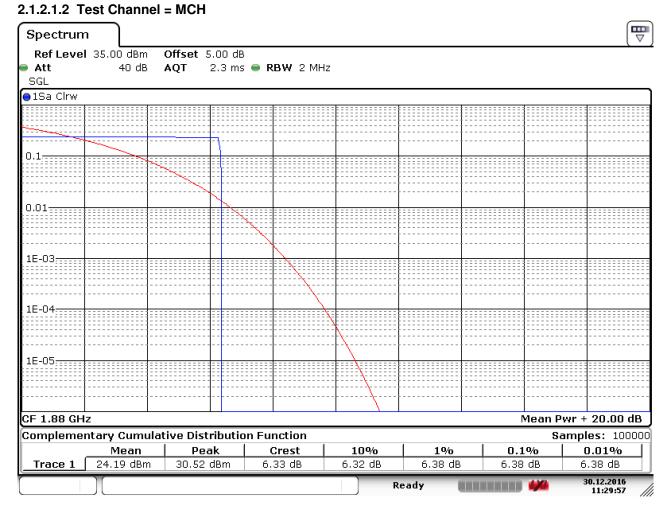
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Date: 30.DEC.2016 11:30:14



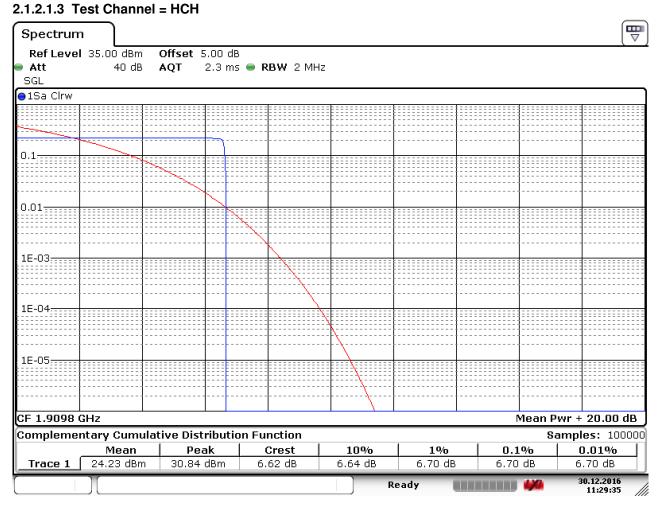
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Date: 30.DEC.2016 11:29:36



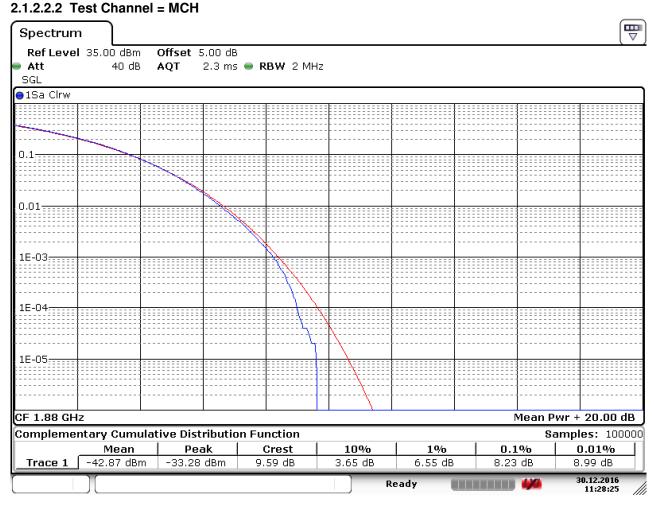
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2.1.2.2 Test Mode = GSM/TM2 2.1.2.2.1 Test Channel = LCH ∀ Spectrum Ref Level 35.00 dBm Offset 5.00 dB Att 40 dB AQT 2.3 ms 👄 RBW 2 MHz SGL o1Sa Clrw 0.1 0.01 1E-03; 1E-04 1E-05; CF 1.8502 GHz Mean Pwr + 20.00 dB Complementary Cumulative Distribution Function Samples: 100000 Mean Peak Crest 10%1% 0.1%0.01%10.55 dB Trace 1 -42.86 dBm -32.31 dBm 3.68 dB 6.55 dB 8.32 dB 10.23 dB 30.12.2016 Ready 11:28:02

Date: 30.DEC.2016 11:28:02



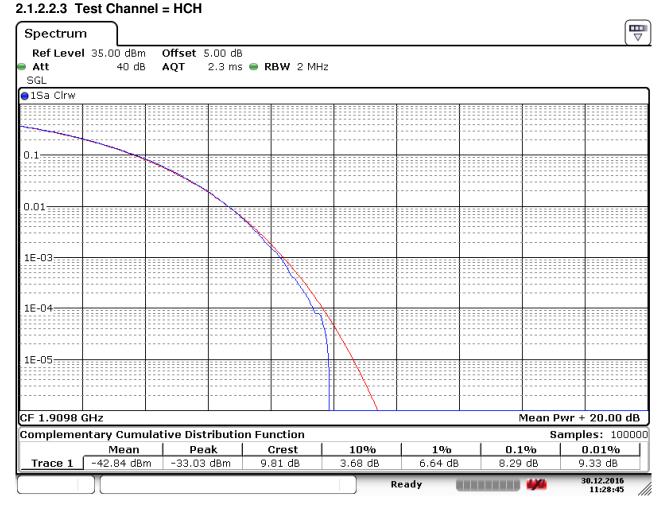
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3 Modulation Characteristics

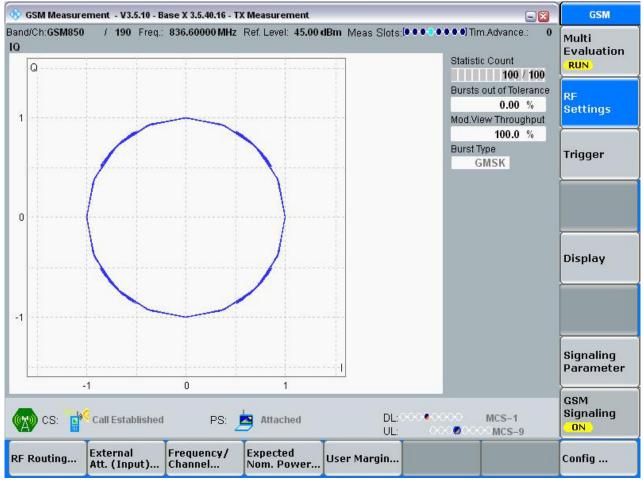
Part I - Test Plots

3.1 For GSM

3.1.1 Test Band = GSM 850

3.1.1.1 Test Mode = GSM/TM1

3.1.1.1.1 Test Channel = MCH





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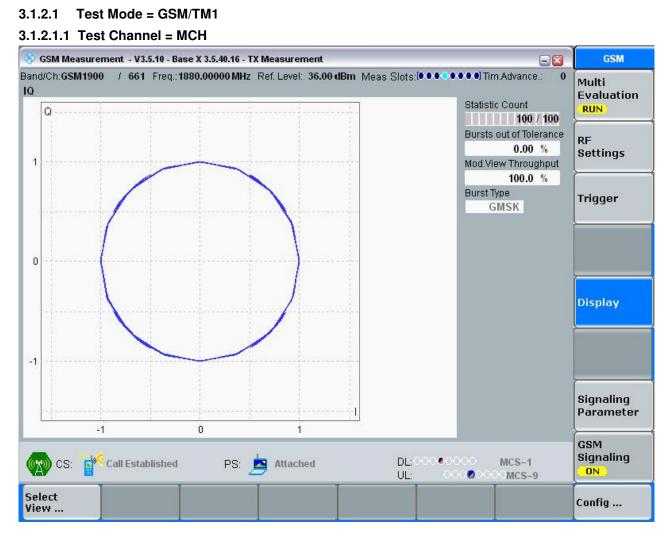
3.1.1.2 Test Mode = GSM/TM2

3.1.1.2.1 Test Channel = MCH 🚸 GSM Measurement - V3.5.10 - Base X 3.5.40.16 - TX Measurement GSM - 2 0 Multi 10 Evaluation Statistic Count RUN Q 100 / 100 Bursts out of Tolerance RF 0.00 % Settings 1 Mod.View Throughput 100.0 % -2 - 33. Burst Type Trigger 8PSK 0 Display ×. 2 -1 Signaling Parameter -1 n 1 GSM Signaling DL: . CS: Synchronized PS: TBF Established MCS-1 ON UL . MCS-9 Select Config ... View ...



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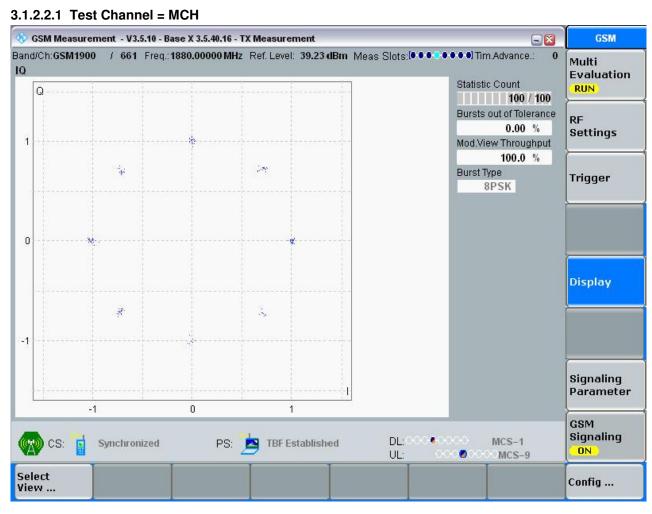
3.1.2 Test Band = GSM 1900





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3.1.2.2 Test Mode = GSM/TM2





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4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
	GSM/TM1	LCH	242.76	311.7	PASS
		MCH	244.76	315.7	PASS
GSM 850		HCH	243.76	317.7	PASS
G3W 050	GSM/TM2	LCH	236.76	313.7	PASS
		MCH	236.76	313.7	PASS
		HCH	237.76	313.7	PASS
	GSM/TM1	LCH	243.76	316.7	PASS
		MCH	243.76	319.7	PASS
GSM 1900		HCH	243.76	316.7	PASS
GSIM 1900	GSM/TM2	LCH	239.76	311.7	PASS
		MCH	240.76	311.7	PASS
		HCH	239.76	313.7	PASS



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4.1 For GSM

4.1.1 Test Band = GSM 850

4.1.1.1 Test Mode = GSM/TM1

4.1.1.1.1 Test Channel = LCH



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4.1.1.1.2 Test Channel = MCH

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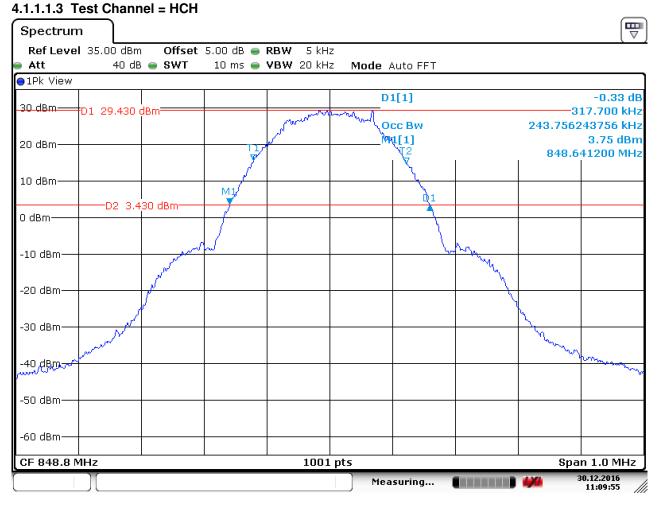
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₽ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 👄 RBW 5 kHz 40 dB 💿 SWT 10 ms 🔵 🗸 🗛 20 kHz Att Mode Auto FFT ●1Pk View D1[1] -0.13 dB 30 dBm D1 29.710 dBm 315.700 kHz Occ Bw 244.755244755 kHz 3.95 dBm \$4[1] 20 dBm-836.442200 MHz 10 dBm⁻ M1 ĥı D2 3.710 dBm 0 dBm· -10 dBm--20 dBm--30 dBm--40 d<u>Bm</u>--50 dBm -60 dBm[.] 1001 pts CF 836.6 MHz Span 1.0 MHz 30.12.2016 Measuring... lli 11:07:11

Date: 30.DEC.2016 11:07:11



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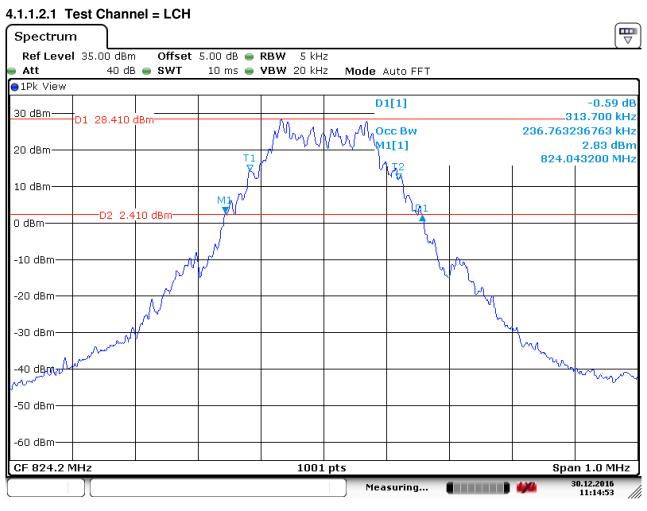


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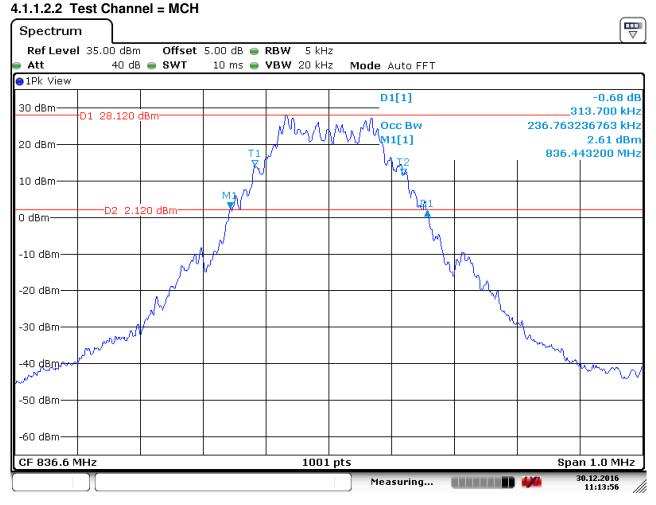
4.1.1.2 Test Mode = GSM/TM2



Date: 30.DEC.2016 11:14:54



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Date: 30.DEC.2016 11:13:57



4.1.1.2.3 Test Channel = HCH

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₽ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 👄 RBW 5 kHz 40 dB 🔵 SWT 10 ms 👄 🗸 🗛 20 kHz Att Mode Auto FFT ●1Pk View D1[1] -0.55 dB 30 dBm-313.700 kHz D1 27.850 dBm-237.762237762 kHz ΛĄ Occ Bw M, M1[1] 2.25 dBm 20 dBm 848.643200 MHz 10 dBm Мֆ D2 1.850 dBm 0 dBm· -10 dBm[.] N -20 dBm[.] -30 dBmwhen A. -40 dBm~ Mm -50 dBm -60 dBm[.] 1001 pts CF 848.8 MHz Span 1.0 MHz 30.12.2016 Measuring... lli 11:12:58

Date: 30.DEC.2016 11:12:59

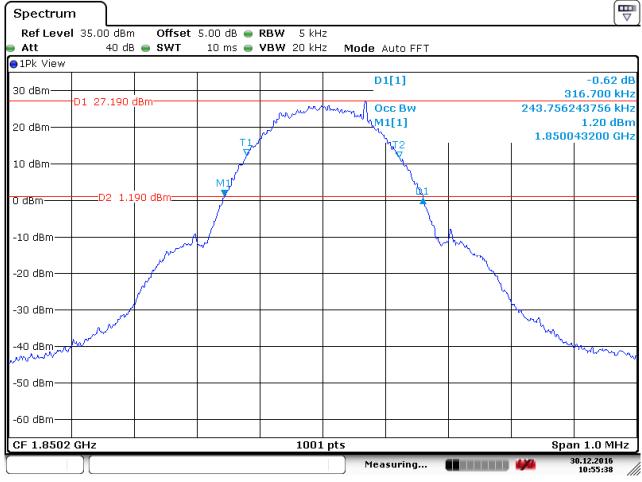


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4.1.2 Test Band = GSM 1900

4.1.2.1 Test Mode = GSM/TM1

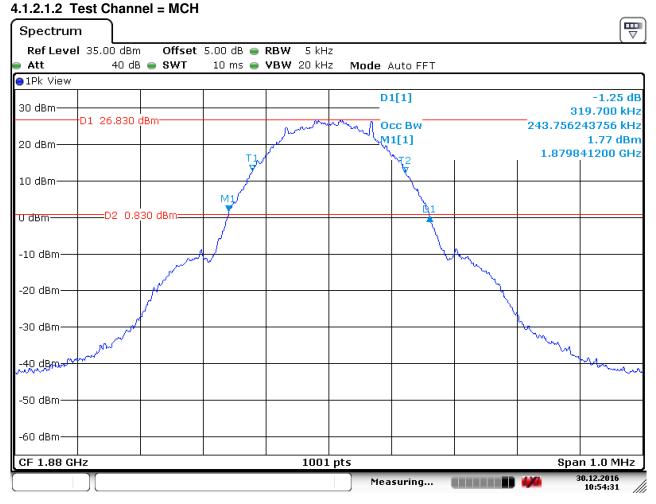
4.1.2.1.1 Test Channel = LCH



Date: 30.DEC.2016 10:55:39



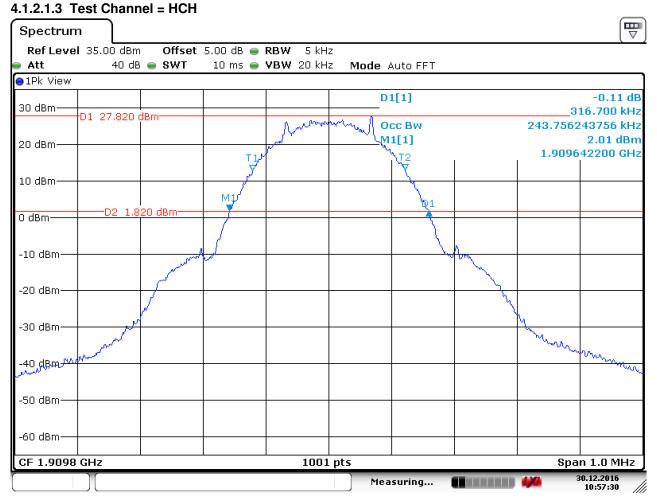
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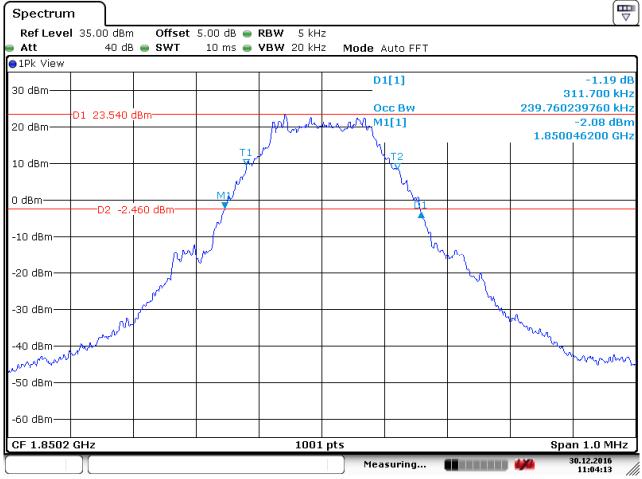
Date: 30.DEC.2016 10:57:30



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4.1.2.2 Test Mode = GSM/TM2

4.1.2.2.1 Test Channel = LCH



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4.1.2.2.2 Test Channel = MCH

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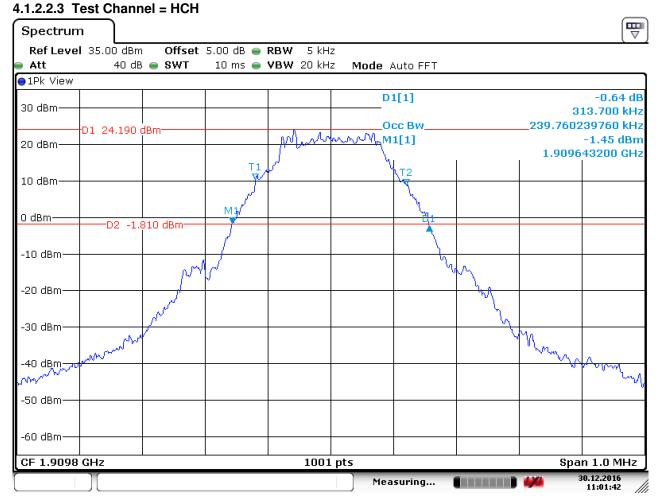
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∀ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 👄 RBW 5 kHz Att 40 dB 👄 SWT 10 ms 👄 **VBW** 20 kHz Mode Auto FFT ●1Pk View D1[1] -1.02 dB 30 dBm-311.700 kHz 240.759240759 kHz Occ Bw D1 23,780 dBm ΔA 1. M. M1[1] -1.84 dBm 20 dBm-1.879846200 GHz Τ1 Т2 10 dBm-M 0 dBm· -D2 -2.220 dBm--10 dBm--20 dBm[.] -30 dBm-M -40 dBmmore -50 dBm--60 dBm-CF 1.88 GHz 1001 pts Span 1.0 MHz 30.12.2016 Measuring... 11:02:47

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5 Band Edges Compliance

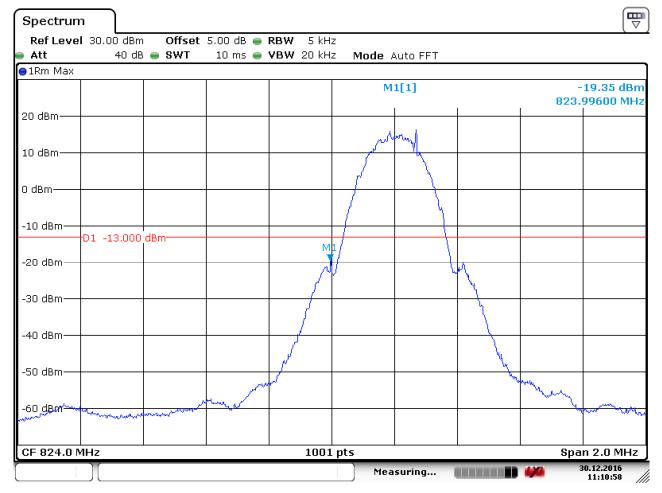
Part I - Test Plots

5.1 For GSM

5.1.1 Test Band = GSM 850

5.1.1.1 Test Mode = GSM/TM1

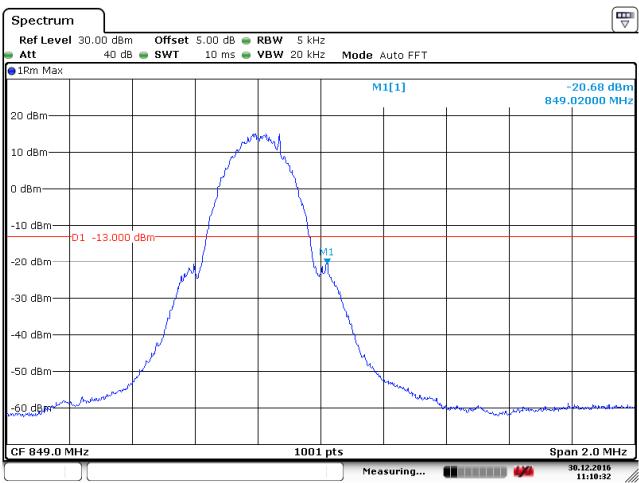
5.1.1.1.1 Test Channel = LCH



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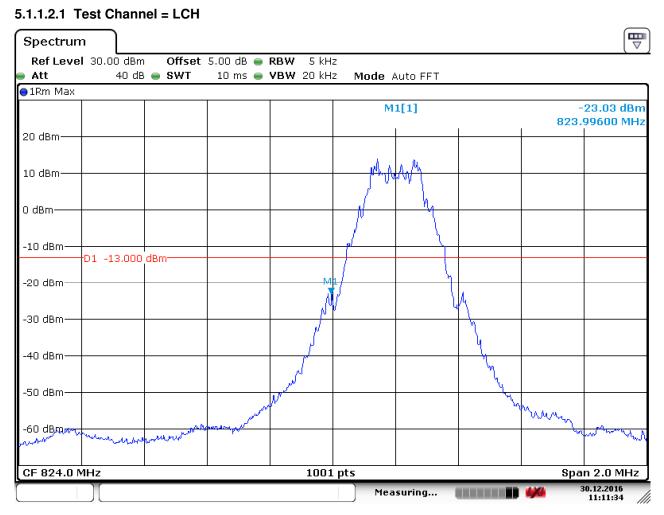
5.1.1.1.2 Test Channel = HCH

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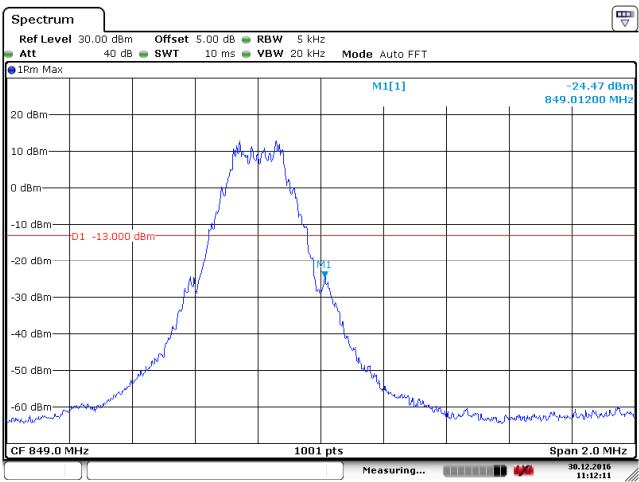
5.1.1.2 Test Mode = GSM/TM2



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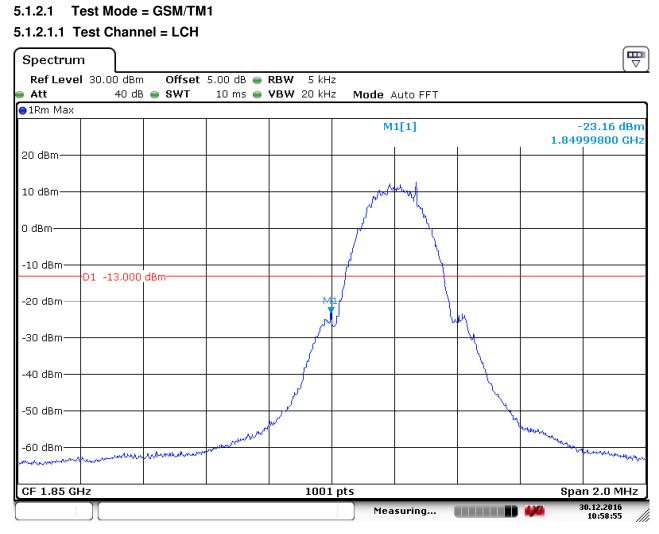
5.1.1.2.2 Test Channel = HCH

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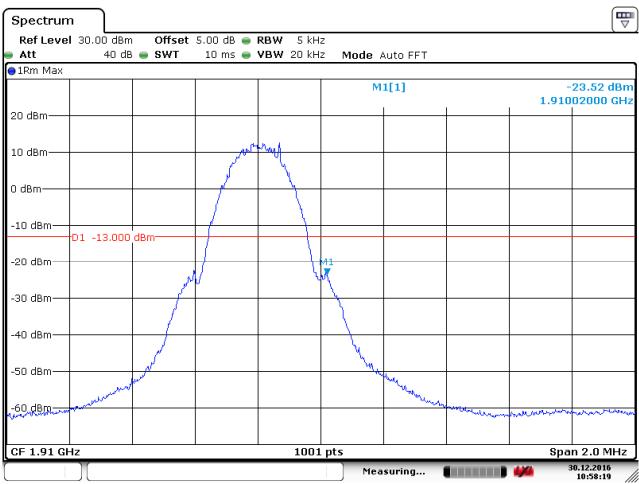
5.1.2 Test Band = GSM 1900



Date: 30.DEC.2016 10:58:55



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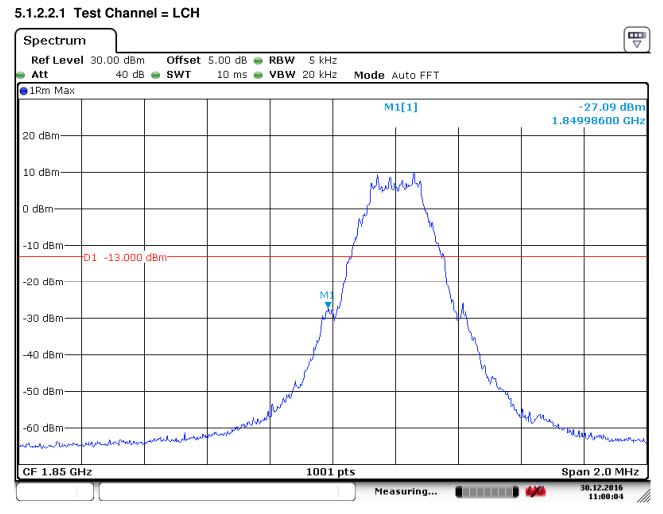
5.1.2.1.2 Test Channel = HCH

Date: 30.DEC.2016 10:58:20



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5.1.2.2 Test Mode = GSM/TM2

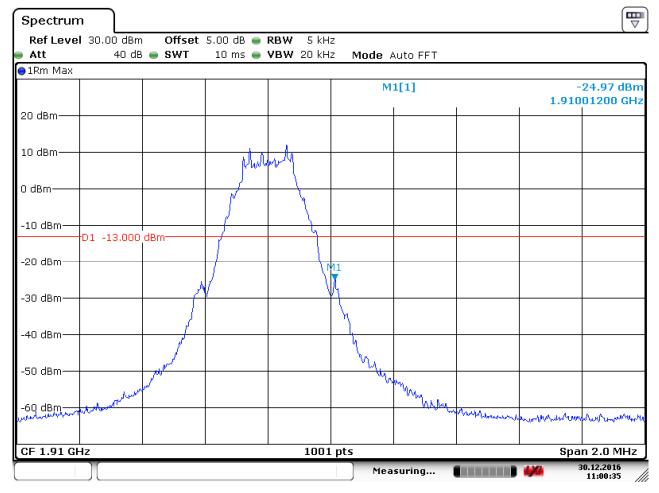


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5.1.2.2.2 Test Channel = HCH



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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.

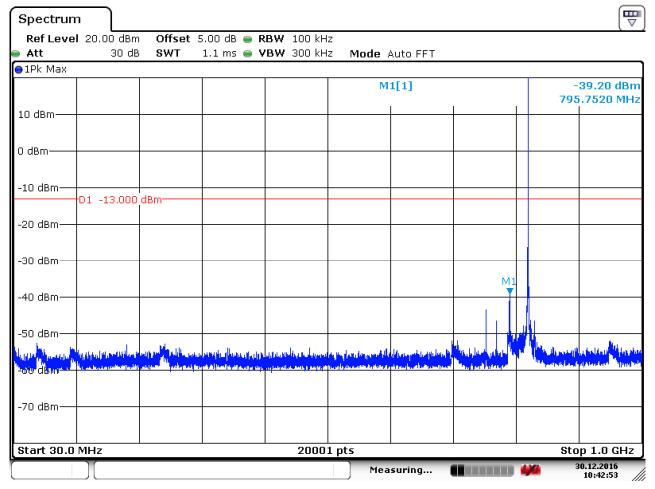
Part I - Test Plots

6.1 For GSM

6.1.1 Test Band = GSM 850

6.1.1.1 Test Mode = GSM/TM1

6.1.1.1.1 Test Channel = LCH



Date: 30.DEC.2016 10:42:54



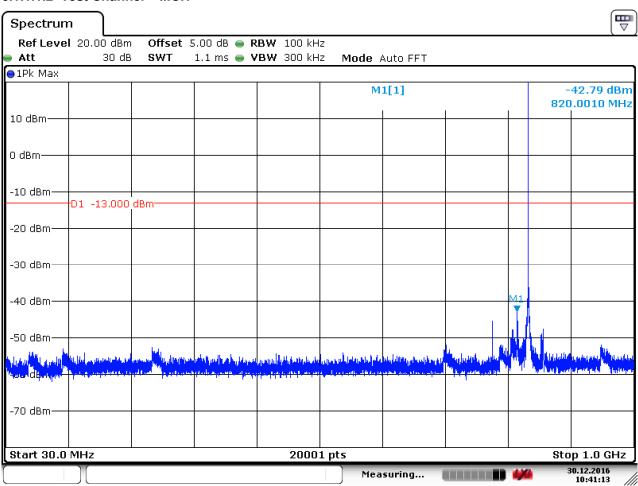
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Spectrum	ı]									
Ref Level				5.00 dB 😑 R						
Att Att	3	0 dB	SWT	27 ms 👄 🎙	BW 3 MHz	Mode Au	ito Sweep			
⊖1Pk Max				[4541			01.00.40
						IVI	1[1]			21.99 dBm 48640 GHz
10 dBm——										
0 dBm										
-10 dBm—	D1 -13	.000	dBm							
-20 dBm										
-30 dBm										
-40 dBm										
La danharantu	ومعراباتهم	يوا إيلامي	فيسريقن فأعبأته إرري	ر در ایک اور اجامال در روید. مرابع میکرد میکرد و میکرد	ang sala dikulan di dah		and the second second		and all the second second	and a sublicity private the state
ta and tabint the	er for Bette de se	-tables	a de la constant de l La constant de la cons			la	՝՝երտ	a Melana de Districter et Mela	ne haga sa	 The second spinor
-60 dBm										
-70 dBm—										
Start 1.0 G	Hz				2000	1 pts			-	10.0 GHz
						Mea	suring (44 3	0.12.2016 10:42:19

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6.1.1.1.2 Test Channel = MCH



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Spectrun	ı]									
Ref Leve Att				5.00 dB 👄 R						
Att 1Pk Max	31) dB	SWT	27 ms 🔲 V	BW 3 MHz	MODE AU	ito Sweep			
-						М	1[1]			21.97 dBm 73390 GHz
10 dBm										
0 dBm										
-10 dBm—	D1 -13,	000 d	IBm							
-20 dBm										
-30 dBm										
-40 dBm			. Lard	ر المنهمية من الم	a _{ha an} thillen ann an tai			n cu i all laborato como ala	an di Basang Pangan ^{dan} an	and and an early solution of the
htenskalation PeserdBint <mark>erken</mark>		igendad ^{il} u maandad	a provinsi a provinsi a da mana da provinsi a da provin Na provinsi a da provinsi a	International and international part	Intelling a Street of Bulletin	Line of the local district of the line of	and the second second	والمراجع والمروط المرجعين والمس	adam bina an atan bin	and the star part of the sec
™eerdBm										
-60 dBm										
-70 dBm——										
Start 1.0 G	 SHz				2000	1 pts			Stop	10.0 GHz
						Mea	suring		444 3	0.12.2016 10:41:56

Date: 30.DEC.2016 10:41:56



6.1.1.1.3 Test Channel = HCH

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

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∀ Spectrum Ref Level 20.00 dBm Offset 5.00 dB 👄 RBW 100 kHz 30 dB 1.1 ms 👄 **VBW** 300 kHz Att SWT Mode Auto FFT ●1Pk Max M1[1] -43.46 dBm 791.7760 MHz 10 dBm-0 dBm--10 dBm-D1 -13.000 dBm -20 dBm--30 dBm -40 dBm--50 dBm weidbint -70 dBm-20001 pts Start 30.0 MHz Stop 1.0 GHz 30.12.2016 Measuring... 10:43:24

Date: 30.DEC.2016 10:43:24



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Spectrum	
RefLevel 20.00 dBm Offset 5.00 dB RBW 1 MHz Att 30 dB SWT 27 ms VBW 3 MHz Mode Auto Sweep	
● Att 30 dB SWT 27 ms ● VBW 3 MHz Mode Auto Sweep ● 1Pk Max	· · · · · · · · · · · · · · · · · · ·
M1[1]	-22.21 dBm
10 dBm	1.697690 GHz
0 dBm	
-10 dBm D1 -13.000 dBm	
-20 dBm	
-30 dBm	
	ne film ang
-60 dBm	
-70 dBm	
Start 1.0 GHz 20001 pts	Stop 10.0 GHz
Measuring	30.12.2016 10:43:48

Date: 30.DEC.2016 10:43:49



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6.1.2 Test Band = GSM 1900

Spectrur	n								
Ref Leve Att	l 20.00 dBm 30 dB		5.00 dB 👄 R	:BW 100 kH 'BW 300 kH					
● 1Pk Max	30 UE	0 0 11	1.1 1115 👿 🎙	DW 300 KH	2 Moue /	Auto FFT			
					М	1[1]			52.00 dBr .3140 MH
10 dBm									
0 dBm									
-10 dBm—	-D1 -13.000	dBm							
-20 dBm—									
-30 dBm—									
-40 dBm—									
-50 dBm—									M1
Dates Hall	and states of the fail.	Later Harrison	n and a construction of the second	Huadan akar pe		an falssaardstad stad to bereas	A STATE OF	And the starting strends	
ະ _ອ ຟາ dິຢາກຊະນ	- the second second second	1							
-70 dBm—									
	 I MHz			2000					p 1.0 GH:

Date: 30.DEC.2016 10:48:54



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Spectrum	ı)								
Ref Level	20.00 dBm 30 dB		5.00 dB 👄 R 27 ms 👄 V	BW 1 MHz BW 3 MHz	Mode A	ito Sweep			
● 1Pk Max	00 42			DII O MIL	mode Ac				
					М	1[1]	1		31.05 dBm 00540 GHz
10 dBm									
0 dBm									
-10 dBm—-	D1 -13.000	dBm							
-20 dBm—-									
-30 dBm		<u>г</u>	11						
-40 dBm—-		a talantin taka		المعدية الألي المعام المعام المعام المعام	Number of Street Street	i and and the desired of the second sec	hada ya ji dilika ta ya dilika sa		findly man know the
	na an Isla Inc. Inc. a 1994	, ng din Militan ng Kalala							
-60 dBm									
-70 dBm——									
Start 1.0 G	Hz	·	·	2000	1 pts	·	·	Stop	10.0 GHz
					Mea	suring		444 3	30.12.2016 10:49:54

Date: 30.DEC.2016 10:49:55



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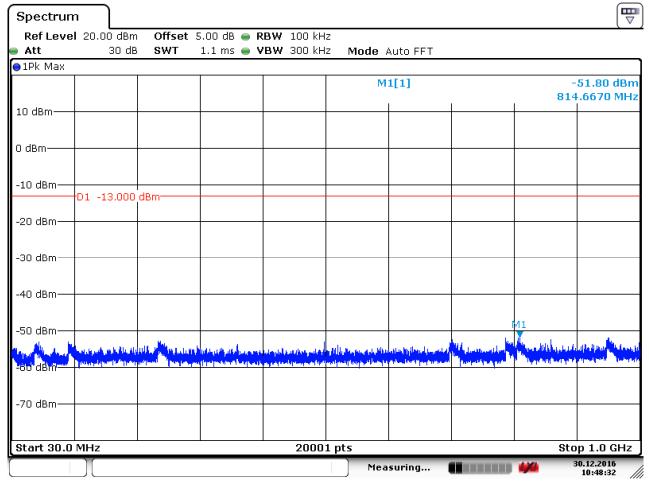
Spectrun	Spectrum									
Ref Level Att	l 20.00 dBm 30 dB		5.00 dB 👄 R	BW 1 MHz BW 3 MHz	na-d- s.					
All 1Pk Max	30 UD	1996	30 IIIS 👿 ¥		MOUE AL	uto Sweep			·,	
					М	1[1]			37.01 dBm 13750 GHz	
10 dBm										
0 dBm										
-10 dBm	D1 -13.000	dBm								
-20 dBm										
-30 dBm									M1	
-40 dBm	and the second	ales difficult of the	State State State	a harar a a tarihi a tarihi da a						
-50 dBm	antin a _{na} ntanti			Constant Parts in the second sec	a na anna anna a		and the second secon	and the second secon	alaguera (* 1844)	
-60 dBm										
-70 dBm										
Start 10.0	GHz			2000	1 pts			Stop	20.0 GHz	
][]				Mea	suring		440 S	30.12.2016 10:51:23	

Date: 30.DEC.2016 10:51:23



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6.1.2.1.2 Test Channel = MCH



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Spectrun	n]								
	1 20.00 dBm		5.00 dB 😑 R						
Att 1Pk Max	30 dB	SWT	27 ms 🖷 🎙	BW 3 MHz	Mode Au	ito Sweep			
1 K Mua					м	1[1]			30.44 dBm
10 dBm								3.7	60390 GHz
0 dBm									
-10 dBm—	D1 -13.000	dBm							
-20 dBm									
-30 dBm			M1						
-40 dBm—			a bar bisk didation	مىلىر <u>ئەتتەر بىلىرى</u>			ան, հեշտ տանո	n, hanta a datala ^h ita	and the public scale
de provinsional de	الاستان والمعادة المراجع محمد المراجع المحمد المحمد	ي أو يعني الكليمية من المربعة. مراد المربعين والمربعين من المربعين		a second and a second sec	ing the second secon			and the second	and the surface states
1=50°dBm									
-60 dBm									
-70 dBm—									
Start 1.0 G	 GHz			2000	1 pts			Stop	10.0 GHz
()[]				Mea	suring (• ••• •	30.12.2016 10:49:25

Date: 30.DEC.2016 10:49:25



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Spectrun	ı]								(₩
Ref Leve Att	l 20.00 dBm 30 dB		5.00 dB 👄 R	RBW 1 MHz /BW 3 MHz	Mode A	ita Cuisan			
Att 1Pk Max	30 UE	0 011	30 IIIS 🖶 🖣		MOUE AL	ito Sweep			
					М	1[1]			37.53 dBm 53750 GHz
10 dBm									
0 dBm									
-10 dBm—	D1 -13.000	dBm							
-20 dBm—									
-30 dBm									M
-40 dBm	and the second		and the second second		ul ang ing ing ing ing ing ing ing ing ing i				ant
-50 dBm	and a second						and a second trans-		i dan i sin
-60 dBm									
-70 dBm									
Start 10.0	GHz			2000	1 pts			Stop) 20.0 GHz
][]				Mea	suring		440 S	30.12.2016 10:51:03

Date: 30.DEC.2016 10:51:04



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6.1.2.1.3 Test Channel = HCH

Spectrum	ı]								
	1 20.00 dBm		_	BW 100 kH					
Att 1Pk Max	30 dB	SWT	1.1 ms 👄 V	' BW 300 kH	z Mode /	Auto FFT			
					М	1[1]			51.75 dBm .8840 MHz
10 dBm									
0 dBm									
-10 dBm	D1 -13.000	dBm							
-20 dBm—									
-30 dBm									
-40 dBm									
-50 dBm			Milli feilmiligen (son (si		, ettimet blevet erbe	and the standy for the		n 1 Martinetari Martinetari	
^{لىم} ەرىك <mark>ە خەرىمە</mark>	<mark>la i _{na a}na ana ana dika karapa</mark>	<mark>retiptint open tragte</mark>	n, Ministry, Alexan Manadaraya	ahada ana ana ana ana ana ana ana ana ana	in a start and a start and a start and a start	n na sa	and the second	<u>i hisak</u> atin padi	ang kang kantan di Kang sana
-70 dBm									
Start 30.0	MHz	·	I	2000	1 pts	I	ı		p 1.0 GHz
					Mea	suring		##	0.12.2016 10:47:40

Date: 30.DEC.2016 10:47:41



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Spectrun	n]								[₩
	1 20.00 dBm		5.00 dB 👄 R						
Att 1Pk Max	30 dB	SWT	27 ms 🔳 V	BW 3 MHz	MODE AU	ito Sweep			
					М	1[1]			30.21 dBm 60390 GHz
10 dBm									
0 dBm									
-10 dBm—	-D1 -13.000	dBm							
-20 dBm—									
-30 dBm			M1						
-40 dBm—		Inchinilian		s		n da gilda le kunde a. Provinse na kunde la	hubber, Laber, and Joseph and	والمتعادين والمتعادين	. <mark>International and an and an </mark>
المراجعة (1994)، والمراجع مراجع		The state of the s	a set of products of the second	Haling a state for bands	AND A CONTRACTOR		allers a letting and desire	and the state of the second states of the second st	Contraction of the second
50 dBm									
-60 dBm—									
-70 dBm—									
Start 1.0 (2000	1 ntc			Stor	10.0 GHz
	ארע ארג			2000				-	10.0 GHZ
Ĺ					Mea	suring			10:50:19

Date: 30.DEC.2016 10:50:19



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Spectrun	Spectrum 🕎									
Ref Leve Att	l 20.00 dBm 30 dB		5.00 dB 👄 R	BW 1 MHz BW 3 MHz	na-d- s.					
Att 1Pk Max	30 UD	5991	30 IIIS 🖶 ¥		MOUE AL	ito Sweep			,	
					М	1[1]			37.43 dBm 50250 GHz	
10 dBm								19.9	30230 GHZ	
0 dBm										
-10 dBm—	D1 -13.000	dBm								
-20 dBm—										
-30 dBm										
-40 dBm	and the states	a su	and a little lite lite in	a and a second second		and the second	R	rel to ale to densi al lint		
-50 dBm	and a state of the	terren allet an _{en a} nda	a da mangan di saka katalan kat	Menness and Street and	i Berki Kanada ya Misa.	aden _{li} nn differing heddin.	(pr.al)Distance	fhan af Santan an Santa I	"Mag _{aradina} da da _{bela} nd"	
-60 dBm										
-70 dBm—										
Start 10.0	GHz			2000	1 pts			Stop	20.0 GHz	
						suring		-	30.12.2016 10:50:36	

Date: 30.DEC.2016 10:50:36



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7 Field Strength of Spurious Radiation

Part I - Test Plots

7.1 For GSM

7.1.1 Test Band = GSM 850

7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1648.875	-50.27	-13.00	37.27	Vertical
2472.150	-46.17	-13.00	33.17	Vertical
7825.100	-53.58	-13.00	40.58	Vertical
1648.425	-47.47	-13.00	34.47	Horizontal
2472.375	-43.11	-13.00	30.11	Horizontal
4121.050	-53.80	-13.00	40.80	Horizontal

7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1673.100	-50.65	-13.00	37.65	Vertical
2509.875	-45.14	-13.00	32.14	Vertical
6183.250	-54.11	-13.00	41.11	Vertical
1673.250	-49.07	-13.00	36.07	Horizontal
2509.950	-40.87	-13.00	27.87	Horizontal
4183.350	-50.23	-13.00	37.23	Horizontal

7.1.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1697.400	-48.85	-13.00	35.85	Vertical
2546.400	-43.42	-13.00	30.42	Vertical
4244.250	-53.24	-13.00	40.24	Vertical
1697.700	-46.86	-13.00	33.86	Horizontal
2546.625	-36.26	-13.00	23.26	Horizontal
4244.250	-48.41	-13.00	35.41	Horizontal



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7.1.2 Test Band = GSM 1900

7.1.2.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
3700.875	-43.31	-13.00	30.31	Vertical
5549.750	-46.50	-13.00	33.50	Vertical
7824.750	-47.93	-13.00	34.93	Vertical
3700.000	-41.86	-13.00	28.86	Horizontal
5550.625	-42.38	-13.00	29.38	Horizontal
9251.000	-46.52	-13.00	33.52	Horizontal

7.1.2.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
3757.750	-46.26	-13.00	33.26	Vertical
5639.875	-47.86	-13.00	34.86	Vertical
9109.250	-48.13	-13.00	35.13	Vertical
3758.625	-41.20	-13.00	28.20	Horizontal
5640.750	-43.02	-13.00	30.02	Horizontal
7520.250	-43.82	-13.00	30.82	Horizontal

7.1.2.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
3819.875	-43.70	-13.00	30.70	Vertical
5729.125	-48.73	-13.00	35.73	Vertical
8655.125	-47.89	-13.00	34.89	Vertical
3819.000	-39.12	-13.00	26.12	Horizontal
5730.000	-44.92	-13.00	31.92	Horizontal
7640.125	-47.89	-13.00	34.89	Horizontal

NOTE:

 All modes are tested, but the data presented above is the worst case. 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



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8 Frequency Stability

8.1 Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				VL	2.10	0.00255	PASS
		LCH	TN	VN	-3.39	-0.00411	PASS
				VH	2.89	0.00351	PASS
				VL	1.99	0.00238	PASS
	GSM/TM1	MCH	TN	VN	2.00	0.00239	PASS
				VH	-5.09	-0.00608	PASS
				VL	4.01	0.00472	PASS
0014		НСН	TN	VN	-3.77	-0.00444	PASS
GSM				VH	-1.89	-0.00223	PASS
850			TN	VL	1.20	0.00146	PASS
		LCH		VN	4.44	0.00539	PASS
				VH	2.87	0.00348	PASS
				VL	0.93	0.00111	PASS
	GSM/TM2	MCH	TN	VN	-6.02	-0.00720	PASS
				VH	1.11	0.00133	PASS
				VL	5.39	0.00635	PASS
		НСН	ΤN	VN	-2.30	-0.00271	PASS
				VH	4.20	0.00495	PASS



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Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
				VL	-3.22	-0.00174	PASS	
		LCH	ΤN	VN	-6.03	-0.00326	PASS	
				VH	1.29	0.00070	PASS	
				VL	0.99	0.00053	PASS	
	GSM/TM1	MCH	TN	VN	2.44	0.00130	PASS	
				VH	-5.55	-0.00295	PASS	
		НСН	TN	VL	-3.01	-0.00158	PASS	
				VN	3.21	0.00168	PASS	
GSM				VH	-6.09	-0.00319	PASS	
1900		LCH	TN	VL	-4.02	-0.00217	PASS	
				VN	-1.67	-0.00090	PASS	
				VH	2.66	0.00144	PASS	
				VL	-3.89	-0.00207	PASS	
	GSM/TM2	MCH	ΤN	VN	-0.12	-0.00006	PASS	
				VH	1.10	0.00059	PASS	
		нсн		VL	4.11	0.00215	PASS	
			TN	VN	-2.22	-0.00116	PASS	
				VH	-3.90	-0.00204	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	-4.01	-0.00487	PASS											
				-20	1.3	0.00158	PASS											
				-10	0.77	0.00093	PASS											
				0	-2.79	-0.00339	PASS											
		LCH	VN	10	0.90	0.00109	PASS											
				20	-3.98	-0.00483	PASS											
				30	1.09	0.00132	PASS											
				40	-0.11	-0.00013	PASS											
				50	-6.20	-0.00752	PASS											
				-30	-3.67	-0.00439	PASS											
		МСН		-20	-5.22	-0.00624	PASS											
				-10	-0.55	-0.00066	PASS											
GSM				0	-3.09	-0.00369	PASS											
850	GSM/TM1		MCH	MCH	MCH	MCH	MCH \	MCH	MCH	MCH	MCH	MCH	MCH	VN	10	1.23	0.00147	PASS
									20	2.89	0.00345	PASS						
				30	1.09	0.00130	PASS											
				40	0.33	0.00039	PASS											
				50	-4.52	-0.00540	PASS											
				-30	-0.15	-0.00018	PASS											
				-20	3.58	0.00422	PASS											
				-10	2.09	0.00246	PASS											
				0	-5.44	-0.00641	PASS											
		HCH	VN	10	1.20	0.00141	PASS											
				20	-2.88	-0.00339	PASS											
				30	3.46	0.00408	PASS											
				40	-0.62	-0.00073	PASS											
				50	-4.90	-0.00577	PASS											



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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict					
				-30	-2.59	-0.00314	PASS					
				-20	2.01	0.00244	PASS					
				-10	-5.32	-0.00645	PASS					
				0	0.60	0.00073	PASS					
		LCH	VN	10	-5.70	-0.00692	PASS					
				20	-4.87	-0.00591	PASS					
				30	-2.99	-0.00363	PASS					
				40	-5.64	-0.00684	PASS					
				50	-2.09	-0.00254	PASS					
				-30	-2.00	-0.00239	PASS					
		МСН			-20	3.40	0.00406	PASS				
				-10	-4.55	-0.00544	PASS					
GSM				0	1.88	0.00225	PASS					
850	GSM/TM2		MCH	MCH	MCH	MCH	MCH	MCH	VN	10	-5.22	-0.00624
				20	-3.56	-0.00426	PASS					
				30	-2.12	-0.00253	PASS					
				40	-3.08	-0.00368	PASS					
				50	-0.67	-0.00080	PASS					
				-30	-3.98	-0.00469	PASS					
				-20	-6.23	-0.00734	PASS					
				-10	-2.77	-0.00326	PASS					
				0	-5.39	-0.00635	PASS					
		HCH	VN	10	1.34	0.00158	PASS					
				20	-4.11	-0.00484	PASS					
				30	-3.20	-0.00377	PASS					
				40	-2.47	-0.00291	PASS					
				50	-5.01	-0.00590	PASS					



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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict						
				-30	-4.43	-0.00239	PASS						
				-20	-5.09	-0.00275	PASS						
				-10	2.19	0.00118	PASS						
				0	-3.90	-0.00211	PASS						
		LCH	VN	10	-0.56	-0.00030	PASS						
				20	1.18	0.00064	PASS						
				30	-3.09	-0.00167	PASS						
				40	-5.20	-0.00281	PASS						
				50	-4.43	-0.00239	PASS						
				-30	-4.76	-0.00253	PASS						
		МСН			-20	1.46	0.00078	PASS					
				-10	-2.48	-0.00132	PASS						
GSM			МСН		0	4.64	0.00247	PASS					
1900	GSM/TM1			MCH	MCH	MCH	MCH	MCH	MCH	VN	10	-3.47	-0.00185
				20	-6.29	-0.00335	PASS						
				30	-3.09	-0.00164	PASS						
				40	-8.39	-0.00446	PASS						
				50	-5.01	-0.00266	PASS						
				-30	-3.49	-0.00183	PASS						
				-20	3.77	0.00197	PASS						
				-10	1.90	0.00099	PASS						
				0	-0.27	-0.00014	PASS						
		HCH	VN	10	-3.28	-0.00172	PASS						
				20	-4.09	-0.00214	PASS						
				30	1.09	0.00057	PASS						
				40	-2.10	-0.00110	PASS						
				50	-3.99	-0.00209	PASS						



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	raye. 04 01 04																	
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict											
				-30	-3.09	-0.00167	PASS											
				-20	-4.11	-0.00222	PASS											
				-10	2.22	0.00120	PASS											
				0	-2.89	-0.00156	PASS											
		LCH	VN	10	-2.09	-0.00113	PASS											
				20	-4.33	-0.00234	PASS											
				30	1.09	0.00059	PASS											
				40	-3.12	-0.00169	PASS											
				50	-6.27	-0.00339	PASS											
				-30	-5.09	-0.00271	PASS											
				-20	-2.10	-0.00112	PASS											
				-10	-4.55	-0.00242	PASS											
GSM		/TM2 MCH		0	1.90	0.00101	PASS											
1900	GSM/TM2		MCH	MCH	MCH	MCH	MCH	MCH	MCH	MCH	MCH	MCH	MCH VI	VN	10	-5.20	-0.00277	PASS
				20	-2.55	-0.00136	PASS											
				30	-3.73	-0.00198	PASS											
				40	0.13	0.00007	PASS											
				50	-6.09	-0.00324	PASS											
				-30	-3.48	-0.00182	PASS											
				-20	2.98	0.00156	PASS											
				-10	1.60	0.00084	PASS											
				0	-5.66	-0.00296	PASS											
		HCH	VN	10	-6.43	-0.00337	PASS											
				20	-4.09	-0.00214	PASS											
				30	-2.24	-0.00117	PASS											
				40	-2.53	-0.00132	PASS											
				50	-5.10	-0.00267	PASS											

The End