

Report No.: SZEM170800849706 Page: 1 of 63

# Appendix B

GSM850&1900

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx</a>. Attention is drawn to the limitation of liability, indemnification and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction form exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 2 of 63

### CONTENT

1	EFFE	ECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA	3
2	PEAM	K-TO-AVERAGE RATIO	4
	2.1	For GSM	5
	2.1.1	Test Band = GSM 850	5
	2.1.2	Test Band = GSM 1900	11
3	MOD	ULATION CHARACTERISTICS	17
	3.1	For GSM	17
	3.1.1	Test Band = GSM 850	17
	3.1.2	Test Band = GSM 1900	19
4	BAN	DWIDTH	21
	4.1	For GSM	22
	4.1.1	Test Band = GSM 850	22
	4.1.2	Test Band = GSM 1900	28
5	BAN	D EDGES COMPLIANCE	34
	5.1	For GSM	34
	5.1.1	Test Band = GSM 850	34
	5.1.2	Test Band = GSM 1900	38
6	SPUF	RIOUS EMISSION AT ANTENNA TERMINAL	42
	6.1	For GSM	42
	6.1.1	Test Band = GSM 850	42
	6.1.2	Test Band = GSM 1900	48
7	FIEL	D STRENGTH OF SPURIOUS RADIATION	57
	7.1	For GSM	57
	7.1.1	Test Band = GSM 850	57
	7.1.2	Test Band = GSM 1900	57
8	FREG	QUENCY STABILITY	58
	8.1	FREQUENCY ERROR VS. VOLTAGE	58
	8.2	FREQUENCY ERROR VS. TEMPERATURE	60

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 3 of 63

#### 1 Effective (Isotropic) Radiated Power Output Data

#### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	ERP[dB]	Limit[dBm]	Verdict
		LCH	32.59	31.59	38.45	PASS
	GSM/TM1	MCH	32.31	31.31	38.45	PASS
0.014.050		HCH	32.14	31.14	38.45	PASS
GSM 850		LCH	26.91	25.91	38.45	PASS
	GSM/TM2	MCH	27.18	26.18	38.45	PASS
		HCH	27.14	26.14	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
		LCH	30.31	30.31	33	PASS
	GSM/TM1	MCH	29.94	29.94	33	PASS
0.014 4000		HCH	29.60	29.60	33	PASS
GSM 1900		LCH	26.50	26.50	33	PASS
	GSM/TM2	MCH	26.13	26.13	33	PASS
		HCH	25.93	25.93	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



Report No.: SZEM170800849706 Page: 4 of 63

#### 2 Peak-to-Average Ratio

Part I - Test I	Results				
Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
		LCH	4.67	13	PASS
	GSM/TM1	MCH	4.72	13	PASS
CSM 950		НСН	4.64	13	PASS
GSM 850		LCH	8.32	13	PASS
	GSM/TM2	МСН	8.32	13	PASS
		НСН	8.55	13	PASS
		LCH	4.78	13	PASS
	GSM/TM1	MCH	4.64	13	PASS
CSM 1000		НСН	4.72	13	PASS
GSM 1900		LCH	8.52	13	PASS
	GSM/TM2	МСН	8.17	13	PASS
		НСН	8.35	13	PASS



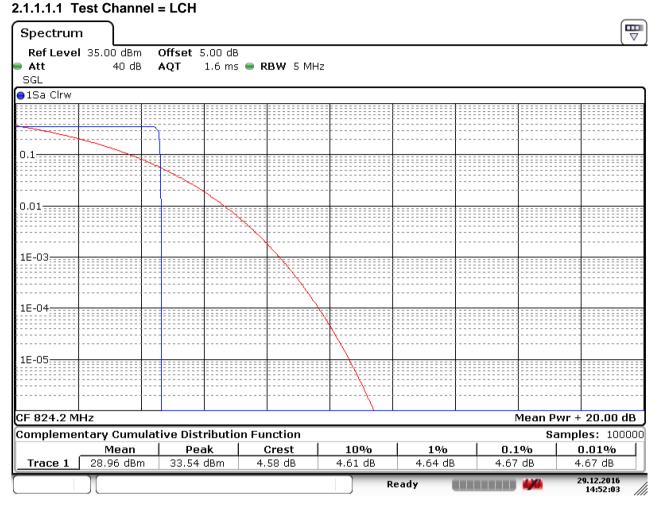
Report No.: SZEM170800849706 Page: 5 of 63

Part II - Test Plots

#### 2.1 For GSM

#### 2.1.1 Test Band = GSM 850

#### 2.1.1.1 Test Mode = GSM/TM1

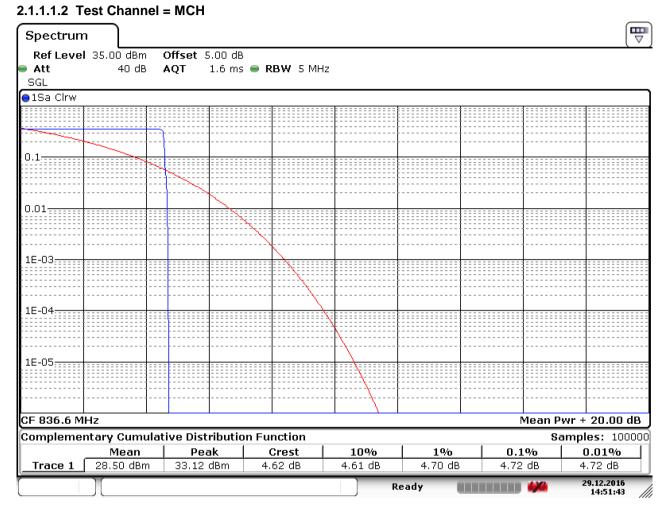


Date: 29.DEC.2016 14:52:03

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Con</u>



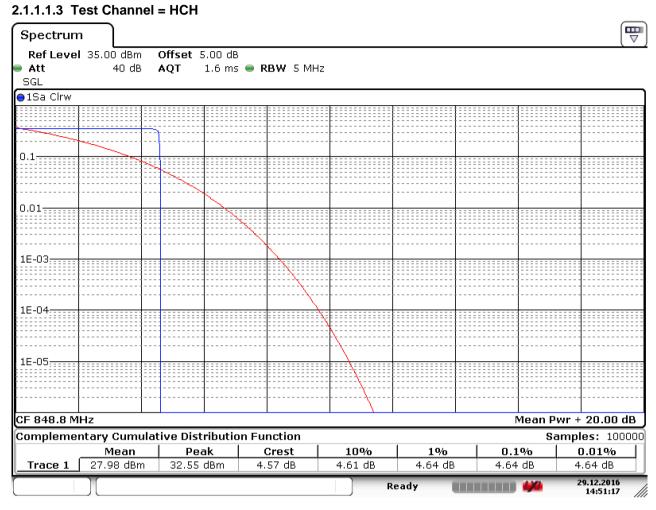
Report No.: SZEM170800849706 Page: 6 of 63



Date: 29.DEC.2016 14:51:43



Report No.: SZEM170800849706 Page: 7 of 63



Date: 29.DEC.2016 14:51:18



Report No.: SZEM170800849706 Page: 8 of 63

#### 2.1.1.2 Test Mode = GSM/TM2

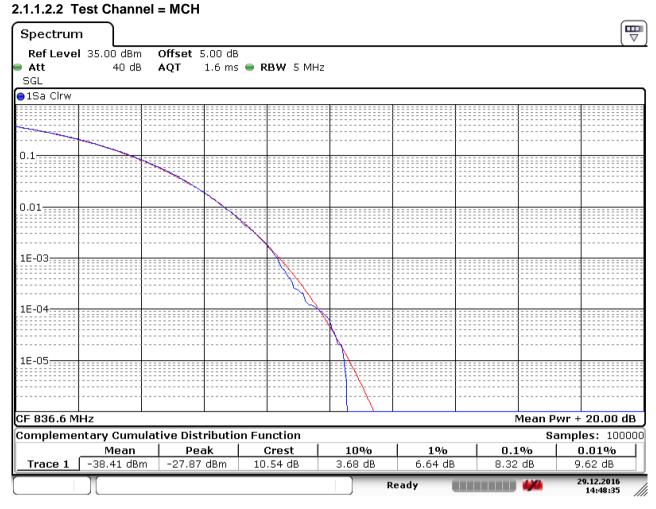
Spectrum	ı )									
Ref Level	l 35.00 dBm	Offset S	5.00 dB						`	
Att SGL	40 dB	AQT	1.6 ms 🖷	RBW 5 MH	łz					
)1Sa Clrw										
0.1										
		· · · · · · · · · · · · · · · · · · ·				<u> </u>				
0.01										
D.01										
			<b>N</b>							
				×						
				*						
1E-03										
				· · · · · · · · · · · · · · · · · · ·		łł				
				····						
1E-04										
16-04					1					
					{\}					
					····					
1E-05										
					···· <mark>\</mark> ·····					
F 824.2 M							1	Mean Pwr ·	+ 20.00 dE	
compleme	nt <mark>ary</mark> Cumi			Function				Samp	oles: 1000	
	Mean	Pea			10%	1%	<u> </u>	L%o	0.01%	
Trace 1	-38.49 dBr	n -27.55	dBm	10.94 dB	3.68 dB	6.78 dB	8.32	dB 9	9.65 dB	
					1	Ready			29.12.2016	

Date: 29.DEC.2016 14:49:30

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



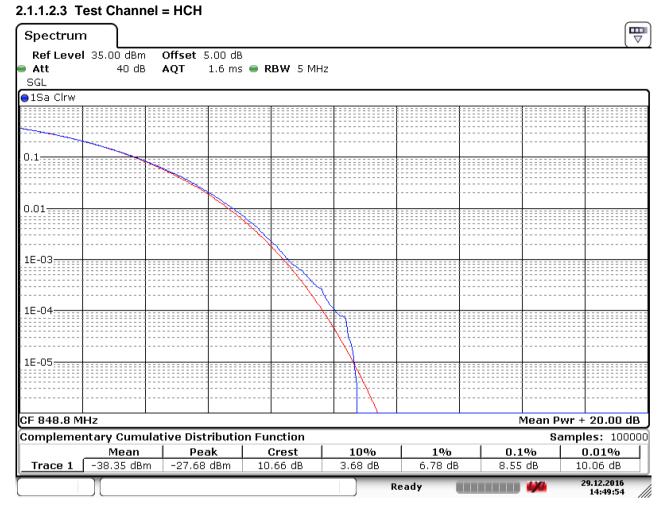
Report No.: SZEM170800849706 Page: 9 of 63



Date: 29.DEC.2016 14:48:35



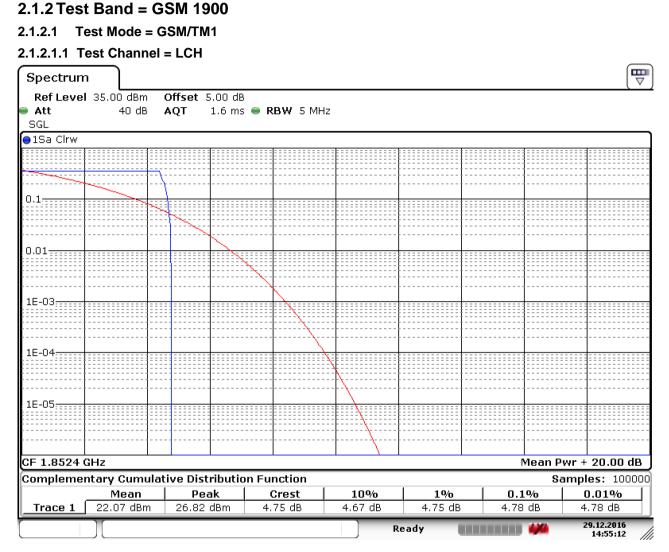
Report No.: SZEM170800849706 Page: 10 of 63



Date: 29.DEC.2016 14:49:54



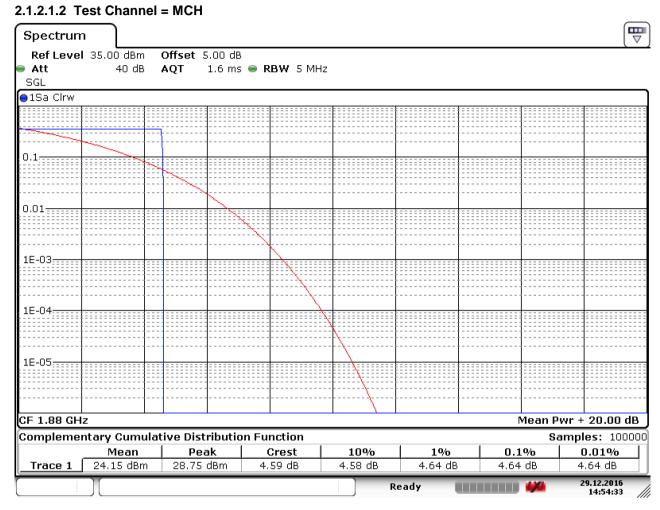
Report No.: SZEM170800849706 Page: 11 of 63



Date: 29.DEC.2016 14:55:13



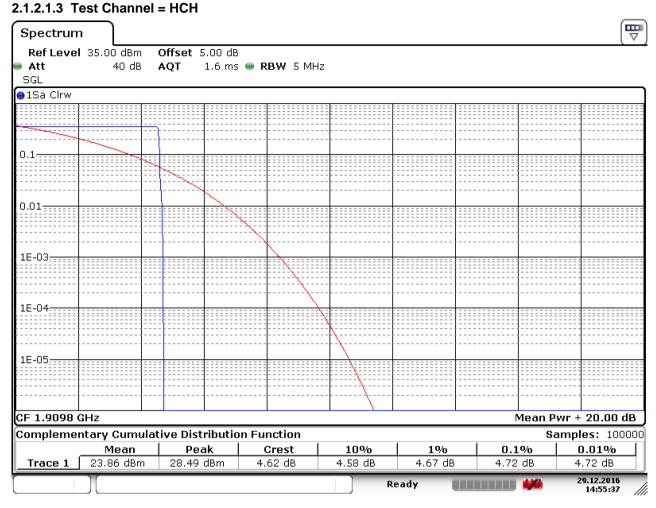
Report No.: SZEM170800849706 Page: 12 of 63



Date: 29.DEC.2016 14:54:33



Report No.: SZEM170800849706 Page: 13 of 63



Date: 29.DEC.2016 14:55:37



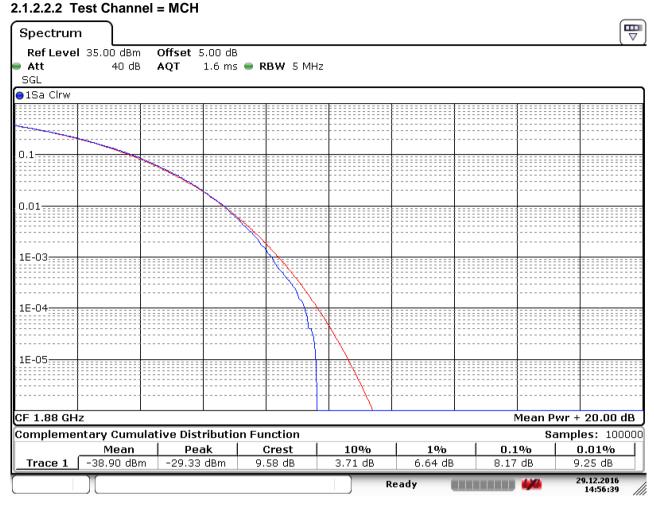
Report No.: SZEM170800849706 Page: 14 of 63

#### 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 1.6 ms 👄 RBW 5 MHz SGL ●1Sa Clrw 0.10.01 1E-03; 1E-04 1E-05-Mean Pwr + 20.00 dB CF 1.8502 GHz Complementary Cumulative Distribution Function Samples: 100000 Mean Peak Crest 10%1% 0.1%0.01% Trace 1 -38.90 dBm -28.42 dBm 10.48 dB 3.68 dB 6.67 dB 8.52 dB 9.54 dB 29.12.2016 Ready /// 14:57:00

Date: 29.DEC.2016 14:57:00



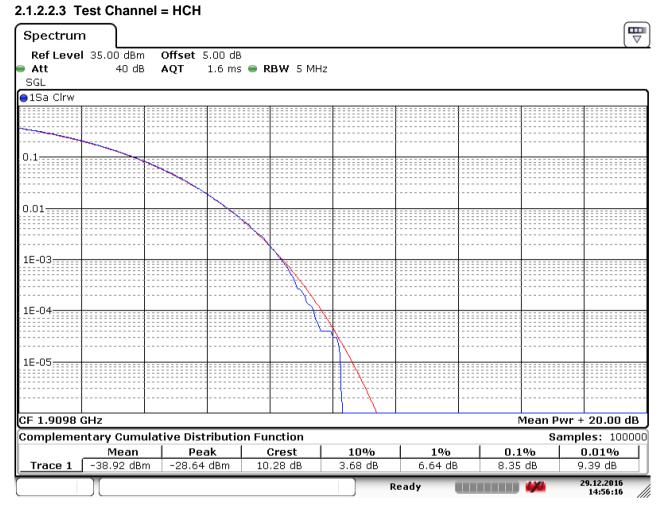
Report No.: SZEM170800849706 Page: 15 of 63



Date: 29.DEC.2016 14:56:40



Report No.: SZEM170800849706 Page: 16 of 63



Date: 29.DEC.2016 14:56:17



Report No.: SZEM170800849706 Page: 17 of 63

#### **3 Modulation Characteristics**

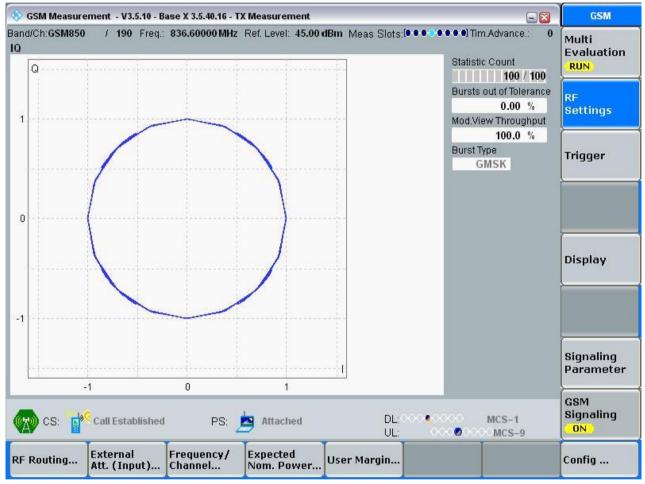
Part I - Test Plots

#### 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





Report No.: SZEM170800849706 Page: 18 of 63

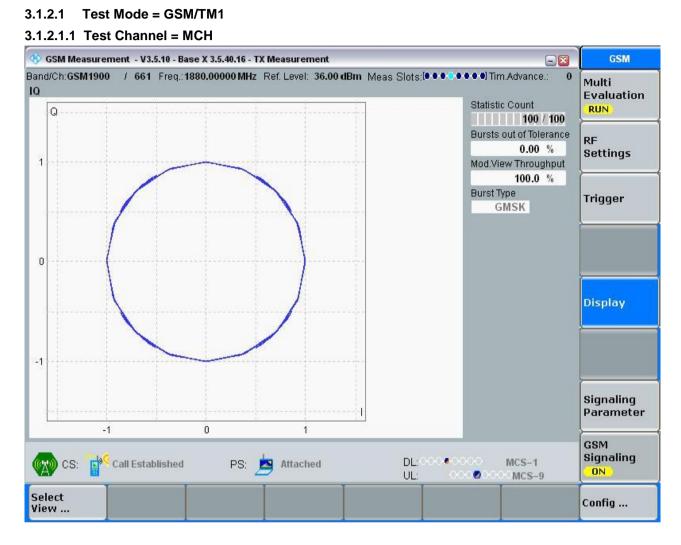
#### 3.1.1.2 Test Mode = GSM/TM2

#### 3.1.1.2.1 Test Channel = MCH 🚸 GSM Measurement - V3.5.10 - Base X 3.5.40.16 - TX Measurement GSM Band/Ch:GSM850 / 190 Freq.: 836.60000 MHz Ref. Level: 42.23 dBm Meas Slots: 0.0.0.0.0.1 Tim.Advance.: 0 Multi 10 Evaluation Statistic Count RUN Q 100 / 100 Bursts out of Tolerance RF 0.00 % Settings 1 Mod.View Throughput 100.0 % : }-\*\*\* Burst Type Trigger 8PSK Π 146 Display ¥., y. -1 Signaling Parameter n 1 -1 GSM Signaling DL: ٠ MCS-1 CS: Synchronized PS: TBF Established **ON** UL: . MCS-9 Expected External Frequency/ RF Routing... User Margin... Config ... Att. (Input).. Channel... Nom. Power.



Report No.: SZEM170800849706 Page: 19 of 63

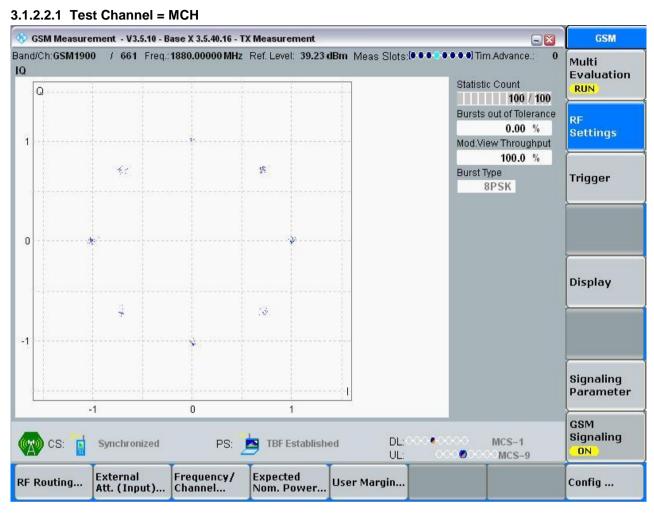
#### 3.1.2 Test Band = GSM 1900





Report No.: SZEM170800849706 Page: 20 of 63

#### 3.1.2.2 Test Mode = GSM/TM2





Report No.: SZEM170800849706 Page: 21 of 63

#### 4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
		LCH	243.76	313.70	PASS
	UMTS/TM1	MCH	243.76	316.70	PASS
GSM 850		HCH	242.76	317.70	PASS
GSIM 000	UMTS/TM2	LCH	239.76	309.70	PASS
		MCH	239.76	309.70	PASS
		HCH	239.76	309.70	PASS
		LCH	243.76	317.70	PASS
	UMTS/TM1	MCH	244.76	311.70	PASS
GSM 1900		HCH	243.76	311.70	PASS
GSIM 1900		LCH	241.76	312.70	PASS
	UMTS/TM2	MCH	242.76	314.70	PASS
		HCH	242.75	316.70	PASS

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



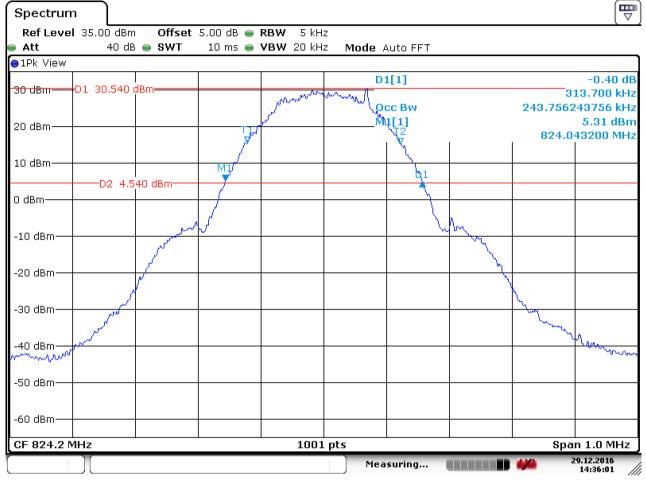
Report No.: SZEM170800849706 Page: 22 of 63

#### 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



Date: 29.DEC.2016 14:36:01



4.1.1.1.2 Test Channel = MCH

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

Report No.: SZEM170800849706 Page: 23 of 63

#### Ţ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 👄 RBW 5 kHz 40 dB 🔵 SWT Att 10 ms 🔵 **VBW** 20 kHz Mode Auto FFT ●1Pk View D1[1] -0.78 dB <del>30 dBm</del> D1 29.960 dBm-316.700 kHz poul Occ Bw 243.756243756 kHz N(1[1] 4.50 dBm 20 dBm-836.442200 MHz 10 dBm-М1 -D2 | 3.960 dBm-0 dBm--10 dBm--20 dBm--30 dBm-٩o Δ.Λ. -40 dBm man -50 dBm -60 dBm-CF 836.6 MHz 1001 pts Span 1.0 MHz 29.12.2016 •••• Measuring... lli 14:37:14

Date: 29.DEC.2016 14:37:15



4.1.1.1.3 Test Channel = HCH

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

Report No.: SZEM170800849706 Page: 24 of 63

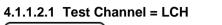
#### Ţ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 👄 RBW 5 kHz Att 40 dB 💿 SWT 10 ms 🔵 **VBW** 20 kHz Mode Auto FFT ●1Pk View D1[1] -0.31 dB 30 dBm-D1 29.380 dBm--317.700 kHz rown Occ Bw 242.757242757 kHz 3.77 dBm M1[1] 20 dBm-848.642200 MHz 10 dBm-Мŀ ά -D2 3.380 dBm-0 dBm--10 dBm--20 dBm--30 dBm-Α. -40 dBm -50 dBm -60 dBm-CF 848.8 MHz 1001 pts Span 1.0 MHz 29.12.2016 Measuring... lli 14:39:27

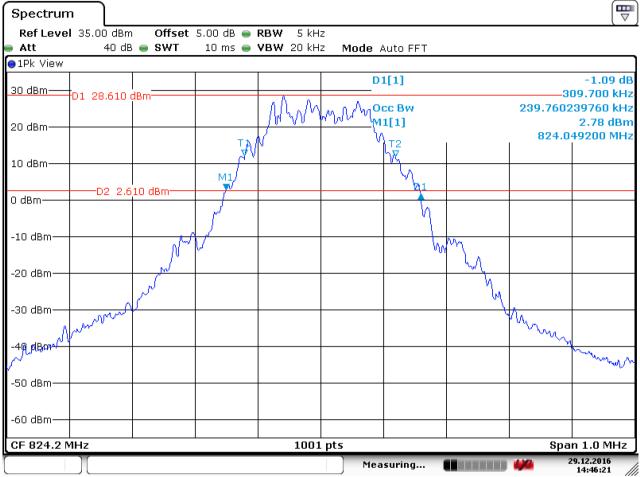
Date: 29.DEC.2016 14:39:28



Report No.: SZEM170800849706 Page: 25 of 63

#### 4.1.1.2 Test Mode = GSM/TM2

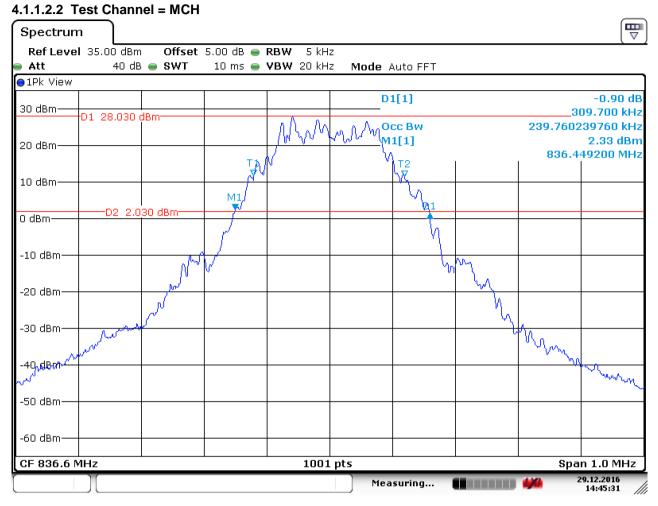




Date: 29.DEC.2016 14:46:21



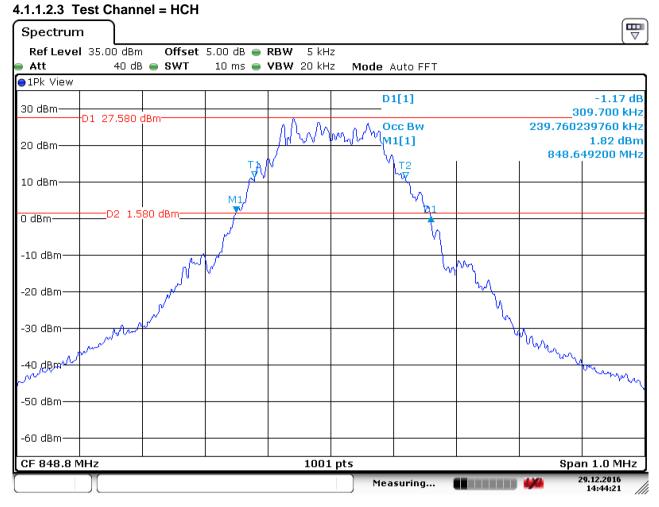
Report No.: SZEM170800849706 Page: 26 of 63



Date: 29.DEC.2016 14:45:31



Report No.: SZEM170800849706 Page: 27 of 63



Date: 29.DEC.2016 14:44:22

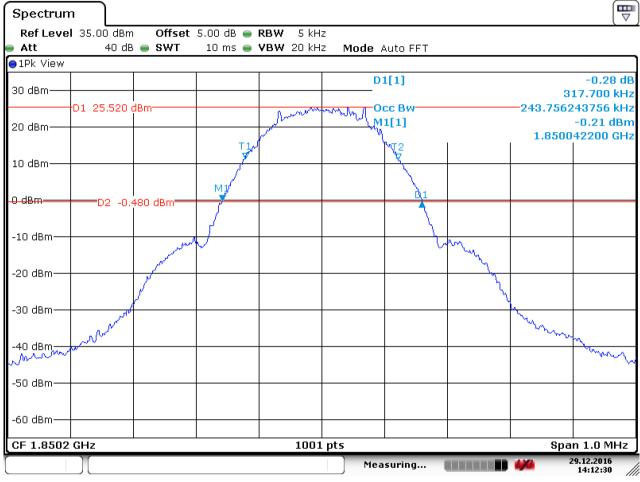


Report No.: SZEM170800849706 Page: 28 of 63

#### 4.1.2 Test Band = GSM 1900

#### 4.1.2.1 Test Mode = GSM/TM1

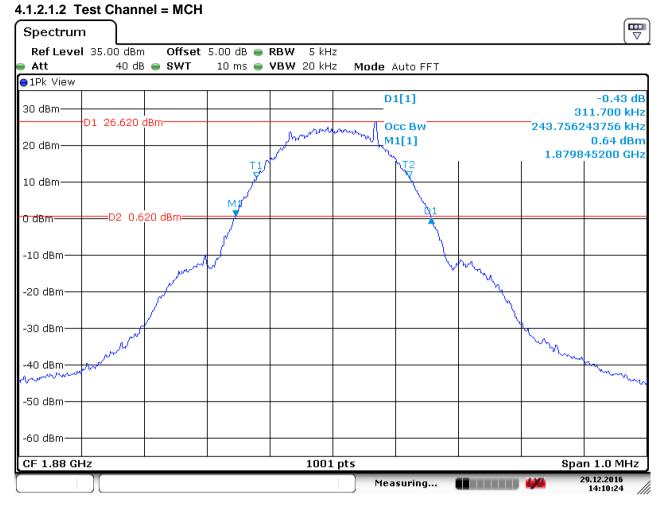
#### 4.1.2.1.1 Test Channel = LCH



Date: 29.DEC.2016 14:12:30



Report No.: SZEM170800849706 Page: 29 of 63



Date: 29.DEC.2016 14:10:25



Report No.: SZEM170800849706 Page: 30 of 63

Spectrum	ı )								
Ref Level	35.00 dBm	Offset	5.00 dB 🔵	RBW 5 kH	z				
👄 Att	40 dB	s 🔵 SWT	10 ms 👄	<b>VBW</b> 20 kH	z Mode A	Auto FFT			
⊖1Pk View									
30 dBm					D	1[1]		3:	-0.63 dB L1.700 kHz
	D1 26.290 (	dBm			MANAN IN	cc Bw		243.7562	43756 kHz
20 dBm				Am	M   Non	1[1]		1.9096	0.34 dBm 45200 GHz
10 dBm			T1 Y			NT2			
			MJ			01			
0 dBm	——D2 0.2	:90 dBm				Ĩ,			
-10 dBm			$\downarrow$ —			f	hn.		
-20 dBm—		Mm				~	Mr. Ja		
		J					۱ <u>۲</u>		
-30 dBm								Survey.	
-40 dBm	Acres							www	mann
									m
-50 dBm									
-60 dBm									
CF 1.9098	GHz	I		1001	pts		<u> </u>	Spa	n 1.0 MHz
	)[]				Mea	suring		🊧 2	9.12.2016 14:14:01

#### 4.1.2.1.3 Test Channel = HCH

Date: 29.DEC.2016 14:14:02

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 31 of 63

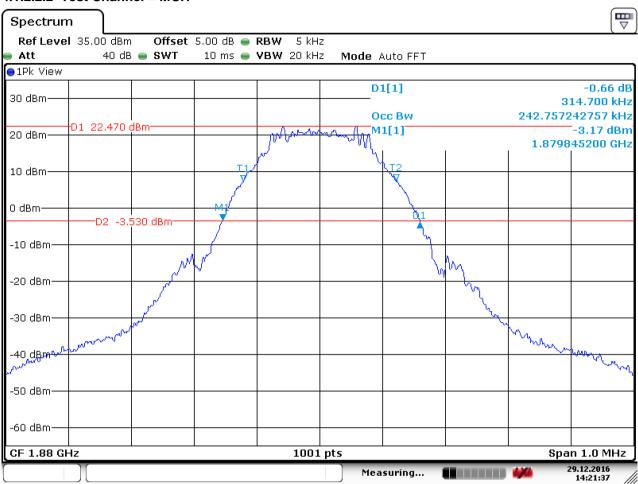
#### 4.1.2.2.1 Test Channel = LCH Ţ Spectrum Ref Level 35.00 dBm Offset 5.00 dB 🔵 RBW 5 kHz Att 40 dB 🔵 SWT 10 ms 🖷 VBW 20 kHz Mode Auto FFT ●1Pk View D1[1] -0.14 dB 30 dBm-312.700 kHz Occ Bw 241.758241758 kHz D1 22.820 dBm--2.95 dBm M1[1] 20 dBmand the 1.850046200 GHz 10 dBm-0 dBm· <u>n 1</u> -D2 -3.180 dBm -10 dBm -20 dBm--30 dBmm ЧΛ ww -40,**d**Bm<sup>\_\_/^</sup> my -50 dBm--60 dBm-CF 1.8502 GHz 1001 pts Span 1.0 MHz 29.12.2016 Measuring... -----14:22:51

#### 4.1.2.2 Test Mode = GSM/TM2

Date: 29.DEC.2016 14:22:52



Report No.: SZEM170800849706 Page: 32 of 63



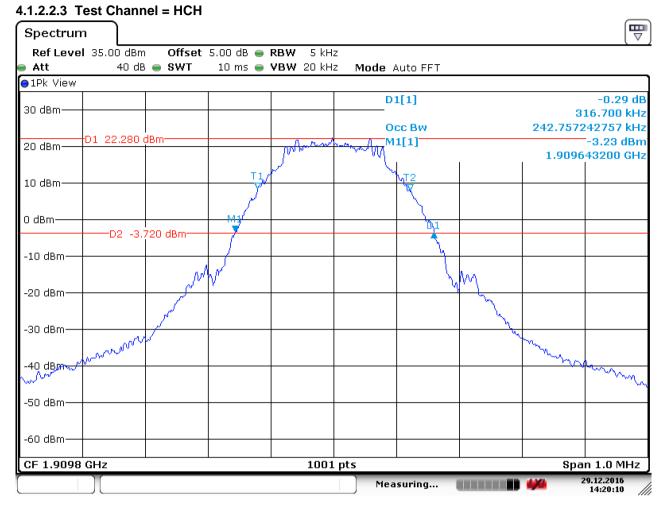
Date: 29.DEC.2016 14:21:37

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.Terms-en-Document.aspx</a> Attention is draven to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is ensybely to the company of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

#### 4.1.2.2.2 Test Channel = MCH



Report No.: SZEM170800849706 Page: 33 of 63



Date: 29.DEC.2016 14:20:10



Report No.: SZEM170800849706 Page: 34 of 63

### 5 Band Edges Compliance

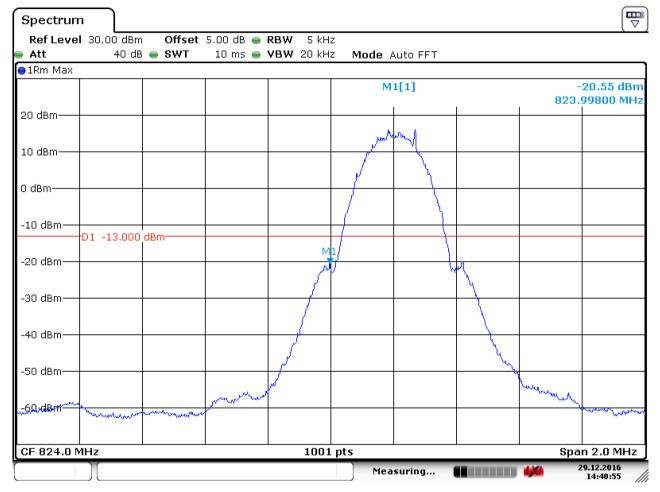
Part I - Test Plots

#### 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

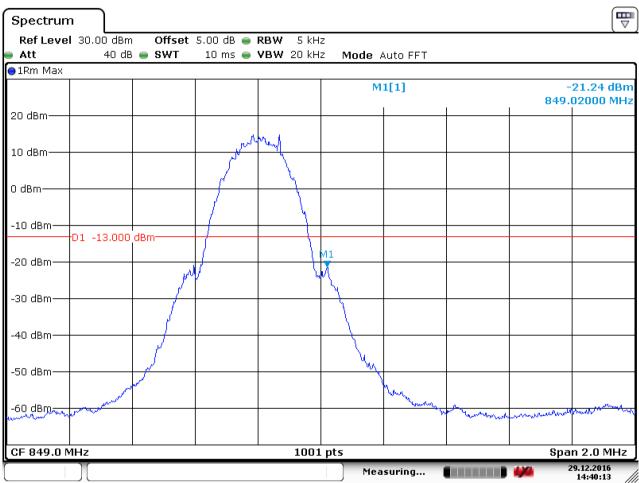


Date: 29.DEC.2016 14:40:55

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Con</u>



Report No.: SZEM170800849706 Page: 35 of 63

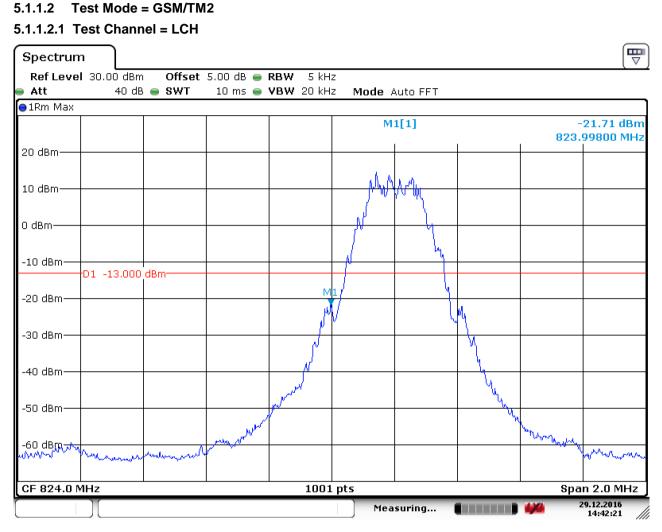


#### 5.1.1.1.2 Test Channel = HCH

Date: 29.DEC.2016 14:40:13



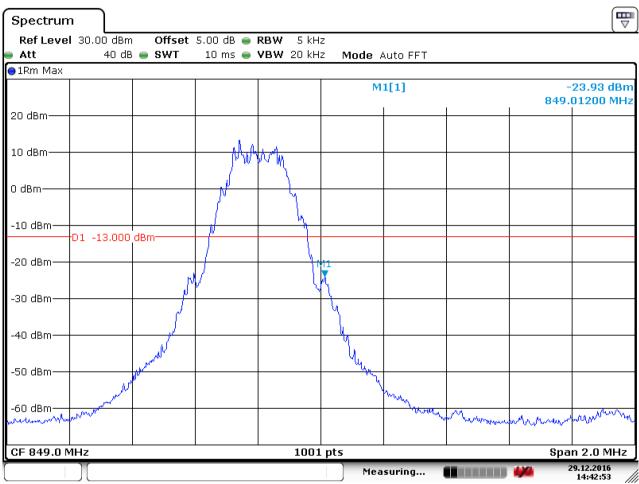
Report No.: SZEM170800849706 Page: 36 of 63



Date: 29.DEC.2016 14:42:21



Report No.: SZEM170800849706 Page: 37 of 63



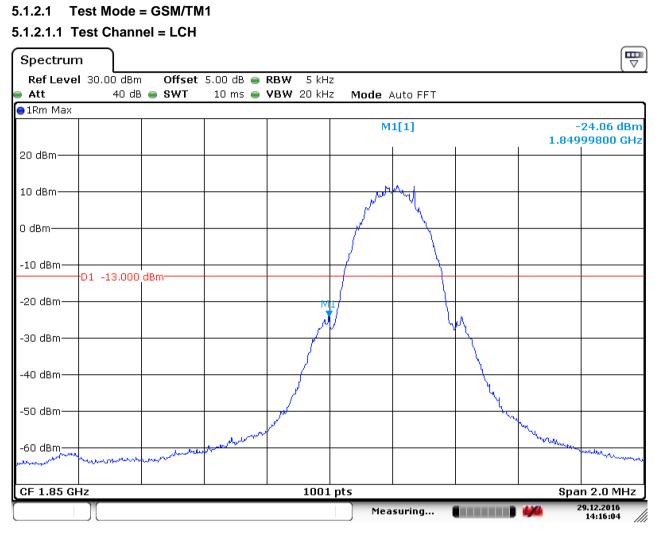
#### 5.1.1.2.2 Test Channel = HCH

Date: 29.DEC.2016 14:42:53



Report No.: SZEM170800849706 Page: 38 of 63

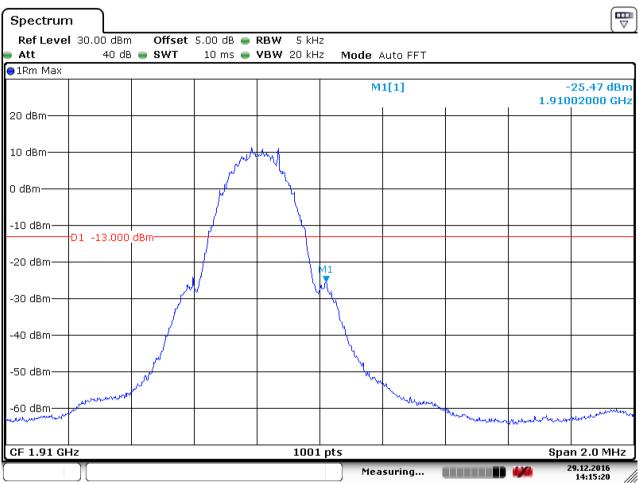
#### 5.1.2 Test Band = GSM 1900



Date: 29.DEC.2016 14:16:05



Report No.: SZEM170800849706 Page: 39 of 63

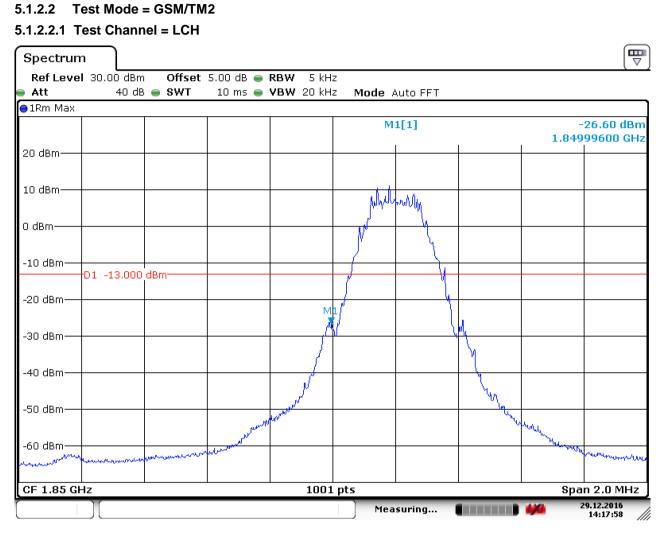


#### 5.1.2.1.2 Test Channel = HCH

Date: 29.DEC.2016 14:15:21



Report No.: SZEM170800849706 Page: 40 of 63



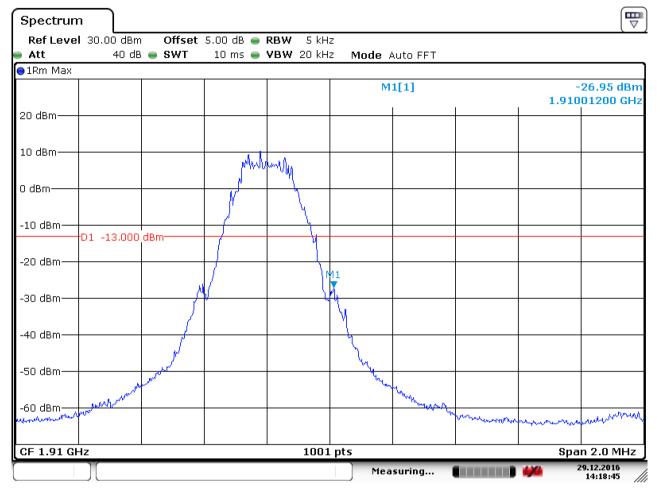
Date: 29.DEC.2016 14:17:59

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx</a>. Attention is drawn to the limitation of liability, indemnification and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction form exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 41 of 63

#### 5.1.2.2.2 Test Channel = HCH



Date: 29.DEC.2016 14:18:45



Report No.: SZEM170800849706 Page: 42 of 63

#### 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.

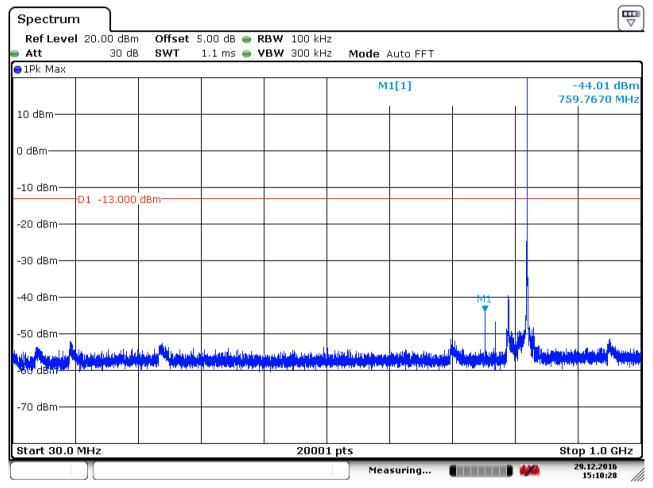
Part I - Test Plots

#### 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: 29.DEC.2016 15:10:28

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is enpotude except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 43 of 63

Spectrun	n								
Ref Leve				🔵 RBW 1 MH					
Att	30	Idb SW	<b>T</b> 27 ms	😑 <b>VBW</b> З МН	z <b>Mode</b> Au	uto Sweep			
⊖1Pk Max	1					4141			00.05 ID
					IV.	1[1]			22.86 dBm 73390 GHz
10 dBm									
0 dBm									
-10 dBm—									
-20 dBr 1	D1 -13.0	)00 dBm							
l T									
-30 dBm									
-40 dBm	a a atta an a		المحالات أعراق والحما والمقار			in the spatial providence of the spatial spatial spatial spatial spatial spatial spatial spatial spatial spatia	and the state of the	an an tao far far far far an	l <sup>ha</sup> ltha <sub>n a n</sub> abhailtean An ann
កាស្រុកដែលក្រោះ។ សេខាយកដល់ហា <sup>ងសេ</sup> ក	e and the state of the state	and the sector sector sector	Contraction for the second second	Children des une articles and		· *****	and the second secon	to provide a static fit front the	and the state of the
-60 dBm									
-70 dBm——									
Start 1.0 (	 3Hz			200	01 pts			Ston	10.0 GHz
	)(			200					9.12.2016
					Mea	asuring			15:11:33

Date: 29.DEC.2016 15:11:33



Report No.: SZEM170800849706 Page: 44 of 63

Spectrun	n									
Ref Leve Att	l 20.00 dBm 30 dB		5.00 dB 👄 R 1.1 ms 👄 V	<b>RBW</b> 100 kH <b>/BW</b> 300 kH		Auto FFT				
●1Pk Max	1	1	1	1						
					м	1[1]				45.11 dBm 1.5430 MHz
10 dBm										
0 dBm										
-10 dBm	D1 -13.000	dBm								
-20 dBm										
-30 dBm—										
-40 dBm——							M1			
-50 dBm—										
-wardbar	la a a la altra la		na an tanàna tanàna mandritra dia kaominina dia kaominina dia kaominina dia kaominina dia kaominina dia kaomini Jeografia	li tel meta dell'estato dell'i Li tel meta dell'internationalitetti Li tel meta dell'internationalitetti				h	a halforder helforderte	
-70 dBm										
Start 30.0	MHz			2000	1 pts					op 1.0 GHz
					Mea	suring		-	1 2	29.12.2016 15:12:01

6.1.1.1.2 Test Channel = MCH

Date: 29.DEC.2016 15:12:01

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 45 of 63

Spectrun	n								
Ref Leve				🔵 RBW 1 MH					
Att	30	Idb SW	<b>T</b> 27 ms	🔵 <b>VBW</b> З МН	z <b>Mode</b> Au	uto Sweep			
⊖1Pk Max	1					4141			00.05 ID
					IV.	1[1]			22.86 dBm 73390 GHz
10 dBm									
0 dBm									
-10 dBm—									
-20 dBr 1	D1 -13.0	)00 dBm							
l T									
-30 dBm									
-40 dBm	a a atta an a		المحالات أعراق والحما والمقار			in the spatial providence of the spatial spatial spatial spatial spatial spatial spatial spatial spatial spatia	and the state of the	an an tao far far far far an	l <sup>ha</sup> ltha <sub>n a n</sub> abhailtean An ann
កាស្រុកដែលក្រោះ។ សេខាយកដល់ហា <sup>ងសេ</sup> ក		and the sector sector sector	Contraction for the second second	Children des une articles and		· *****	and the second secon	to provide a static fit front the	and the state of the
-60 dBm									
-70 dBm——									
Start 1.0 (	 3Hz			200	01 pts			Ston	10.0 GHz
	)(			200					9.12.2016
					Mea	asuring			15:11:33

Date: 29.DEC.2016 15:11:33



Report No.: SZEM170800849706 Page: 46 of 63

#### ₩ Spectrum Ref Level 20.00 dBm Offset 5.00 dB 🖷 RBW 100 kHz 30 dB SWT 1.1 ms 👄 **VBW** 300 kHz Att Mode Auto FFT ●1Pk Max M1[1] -44.51 dBm 791.7760 MHz 10 dBm-0 dBm--10 dBm-D1 -13.000 dBm -20 dBm--30 dBm--40 dBm· M1-50 dBmdh. -70 dBm-Stop 1.0 GHz Start 30.0 MHz 20001 pts 29.12.2016 Measuring... 15:13:21

6.1.1.1.3 Test Channel = HCH

Date: 29.DEC.2016 15:13:22



Report No.: SZEM170800849706 Page: 47 of 63

Spectrun	n									
	l 20.00 dBn		5.00 dB 😑 R						<b>`</b>	
Att 1Pk Max	30 de	B SWT	27 ms 🛑 🎙	BW 3 MHz	Mode Au	ito Sweep			,	
●тьк мах	1		1			4541			23.38 dBm	
					M1[1]				1.697690 GHz	
10 dBm										
0 dBm										
-10 dBm—										
	D1 -13.000	I dBm								
-20 dBn <del>M1 -</del>										
-30 dBm										
-40 dBm						en det de la comme				
	اللالية والتروية	ومانتها والمالي ا	and and a second se	الأوليات والمطارعين واللي		a comparison of the second	distance during the	and black and the	and dealers of the state	
-50 dBm		and the state of the last		and here a second second		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		hand the state of the	i i i ingen verstaaren	
-50 übili—										
-60 dBm—										
-70 dBm—										
Start 1.0 C	GHz			2000	1 pts			-	10.0 GHz	
					Mea	suring		<b>4/4</b> 2	9.12.2016 15:12:56	

Date: 29.DEC.2016 15:12:57



Report No.: SZEM170800849706 Page: 48 of 63

#### 6.1.2 Test Band = GSM 1900

Spectrun	י 🗋								
	l 20.00 dBm		5.00 dB 👄 I						
• Att • 1Pk Max	25 dE	SWT	1.1 ms 🖷 🕻	<b>VBW</b> 300 kH	z Mode /	Auto FFT			
					м	1[1]			-56.35 dB
						-[-]			5.1770 MF
10 dBm									+
0 dBm									
-10 dBm									
	D1 -13.000	dBm							
-20 dBm			_					ļ	
-30 dBm									
00 00									
-40 dBm									
-50 dBm									
-30 ubiii						М	1		
contro d		بالد					lu <sub>n a</sub> nhu	141 I. S	and the
-9P (9m-	सम्बद्धाः स्वतित्वा स्वतंत्रियस्य सम्बद्धाः स्वतंत्रियस्य	The second second	na sini shina iyo na s		and a state with the second state of the secon	ang	A DESCRIPTION OF STREET	L. Balling peticities	
eritere allerer feit	International contract	անդես տերանան	in here we have been a set	an and a star of the second	an managan ka aku da saha	a secolo de la contra co	The second s	1	
-70 dBm—									

Date: 29.DEC.2016 15:01:51

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx</a>. Attention is drawn to the limitation of liability, indemnification and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction form exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 49 of 63

Spectrur	n								
	l 20.00 dBm		5.00 dB 😑 R						
Att 1Pk Max	30 dB	SWT	27 ms 👄 V	' <b>BW</b> 3 MHz	Mode Au	ito Sweep			
					м	1[1]			34.07 dBm
10 dBm								3.7	00540 GHz
0 dBm									
-10 dBm—	-D1 -13,000	dBm							
-20 dBm—									
-30 dBm—		- IV	1						
-40 dBm—				han dilamana			. Ilet or abore analysis	a kasaranan ka	(habelda et a adh at a.
and the full of the	and the design of the later			(Alastania and Alastania and	Anger Anger (Anne and Anne)		al the state of the second	and the state of the state of the	and the second s
haparaput in <mark>kan</mark>									
-60 dBm—									
-70 dBm—									
Start 1.0 (	GHz	·	I	2000	1 pts	·	·	Stop	10.0 GHz
					Mea	suring (		<b>4/4</b> 2	9.12.2016 15:04:54

Date: 29.DEC.2016 15:04:54



Report No.: SZEM170800849706 Page: 50 of 63

Spectrun	n								
	l 20.00 dBm		5.00 dB 😑 R						
Att 1Pk Max	30 dB	SWT	30 ms 🛑 V	BW 3 MHz	Mode Au	ito Sweep			,
					М	1[1]			37.19 dBm 54260 GHz
10 dBm									
0 dBm									
-10 dBm—	D1 -13.000	dBm							
-20 dBm—									 
-30 dBm									M1
-40 dBm			a su a contra presidente de la contra de la c	and a state of the			المربقة المربق المربقة المربقة	an a suite in ginn an a	
-50 dBm	and the second								
-60 dBm—									
-70 dBm—									
Start 10.0	GHz			2000	1 pts	·			20.0 GHz
	][]				Mea	suring		- <b>2</b>	9.12.2016 15:05:14

Date: 29.DEC.2016 15:05:14



Report No.: SZEM170800849706 Page: 51 of 63

Spectrum									
Ref Level 20	).00 dBm	Offset	5.00 dB 👄 F	<b>RBW</b> 100 kH	z				
Att	25 dB	SWT	1.1 ms 👄	<b>/BW</b> 300 kH	z Mode /	Auto FFT			
●1Pk Max									
					M	1[1]			-56.25 dB
						1	1	70	9.4270 MH
10 dBm									
0 dBm									
-10 dBm									
D1	-13.000 c	lBm							
-20 dBm									
-30 dBm									
-30 ubiii									
-40 dBm									
-50 dBm						M	1		
		2							
- գորի հերություն	under Textberring	alura <sup>All</sup> inuran	and the second	and a standard and a stand	at the star ball and a second star	detect it for any b	Press of the second		
antagan janahan janap	ALC: NO.	and a state of	hattenaperdhapper	a parte de la présente la faite	وسنار بارا بيناهم بالبد	and and provide the provide of the p	horolagerran.	n multinenteri	
-70 dBm									
01									
Start 30.0 MH	z			2000:	L pts				op 1.0 GHz 29.12.2016

6.1.2.1.2 Test Channel = MCH

Date: 29.DEC.2016 15:03:01



Report No.: SZEM170800849706 Page: 52 of 63

Spectrun	n								
	l 20.00 dBm		5.00 dB 😑 R						<b>`</b>
Att	25 dE	SWT	27 ms 🖷 ۷	BW 3 MHz	Mode Au	ito Sweep			
⊖1Pk Max	1		1						
					M	1[1]			31.76 dBm 60390 GHz
10 dBm								3.7	00390 GHZ
0 dBm									
-10 dBm—	D1 10.000								
-20 dBm—	D1 -13.000								
-30 dBm—			M1						
-40 dBm									
្រេត្តល្ <sub>ក</sub> ៨ឩុកក <sup>្នុង</sup>	فوفا لتعابي وبالأرام وإليان	and the state of the later		المراجع والمراجع المراجع الم	اروانی (را اطلانی) روانی (روانی) روانی (روانی)	a sector of the	index at Jettle day and Af		
A CALENDARY OF A DATA	all ball to a solution of						and an effective film.		and the second states
-60 dBm—									
-70 dBm—									
Start 1.0 (	 GHz			2000	1 nts			Ston	10.0 GHz
				2000		suring			9.12.2016
Ĺ					Mea	suring			15:04:17

Date: 29.DEC.2016 15:04:17



Report No.: SZEM170800849706 Page: 53 of 63

Spectrun	n								
	l 20.00 dBm		5.00 dB 😑 R						
Att	30 dB	SWT	30 ms 😑 V	BW 3 MHz	Mode Au	ito Sweep			
⊖1Pk Max		I	1						
					M	1[1]			36.66 dBm
10 dBm								19.9	48750 GHz
0 dBm									
-10 dBm—									
-20 dBm—	D1 -13.000	abm							
-30 dBm—									
-40 dBm	المعالم المعالم	a a antibilita a site		an a		ales en alles anno estata	الغربين المراجع	Marine transferre and	M:
and a second		and the states of	And a state of the state of the	and the second second	Lastic associations	And the state of t	and the second sec	Sector Street Control	decomposition of the second
-50 dBm									
-60 dBm									
-70 dBm—									
Start 10.0	GHz			2000	1 pts			Stop	20.0 GHz
(	)[]				Mea	suring		- <sup>2</sup>	9.12.2016 15:05:31

Date: 29.DEC.2016 15:05:31



Report No.: SZEM170800849706 Page: 54 of 63

#### ₩ Spectrum Ref Level 20.00 dBm Offset 5.00 dB 🖷 RBW 100 kHz 25 dB SWT 1.1 ms 👄 **VBW** 300 kHz Att Mode Auto FFT ●1Pk Max M1[1] -56.27 dBm 711.9490 MHz 10 dBm-0 dBm--10 dBm-D1 -13.000 dBm -20 dBm--30 dBm--40 dBm--50 dBmthe party for the sector . U a 🛛 -60 <mark>18</mark>ma sufficient -70 dBm-Stop 1.0 GHz Start 30.0 MHz 20001 pts 29.12.2016 1.80 Measuring... 15:03:29

6.1.2.1.3 Test Channel = HCH

Date: 29.DEC.2016 15:03:30



Report No.: SZEM170800849706 Page: 55 of 63

Spectrum	ı )								
	l 20.00 dBn		5.00 dB 👄 F						
Att 1Pk Max	25 di	B SWT	27 ms 🖷 🛚	BW 3 MHz	Mode Au	ito Sweep			
<b>U</b> IN Man					М	1[1]			31.18 dBm 19780 GHz
10 dBm									
0 dBm									
-10 dBm—	D1 -13.000	) dBm							
-20 dBm—									
-30 dBm			M1						
-40 dBm				lagerer of a straight	In the second second	. Jun seller			
<sub>յո</sub> 50, ժթտվել	والمراجب والعالم مرا	مريط الأطلاط ولي إمار ومن مريك بالأرس المرجع المريسي		a a su a			المراجع والمتعادين والمتعاد	n balance da pallement da	
and the second s	ألاحة معرية بينا معازينية							and the manufacture of the	
-60 dBm——									
-70 dBm									
Start 1.0 G	 GHz			2000	l 1 pts			Stop	 0 10.0 GHz
						suring			29.12.2016 15:03:53

Date: 29.DEC.2016 15:03:54



Report No.: SZEM170800849706 Page: 56 of 63

Spectrun	n								
Ref Leve Att	l 20.00 dBm 30 dB		5.00 dB 👄 R 30 ms 👄 V	BW 1 MHz BW 3 MHz	Mode Au	ito Sweep			`
⊖1Pk Max									•
					М	1[1]			37.28 dBm 24760 GHz
10 dBm									
0 dBm									
-10 dBm—	D1 -13.000	dBm							
-20 dBm—									
-30 dBm									M1
-40 dBm	and the second second	- 6461	and the second of the						
-50 dBm	nestrik ind <sub>ise</sub> reseksis		and the product of th	Contraction (1997)			Ting (of 1 Second Second		
-60 dBm									
-70 dBm——									
Start 10.0	GHz	·	·	2000	1 pts		·	Stop	20.0 GHz
					Mea	suring (		- <u>2</u>	9.12.2016 15:05:46

Date: 29.DEC.2016 15:05:47



Report No.: SZEM170800849706 Page: 57 of 63

#### 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
1265.833	-51.53	-13.00	-38.53	Vertical
1811.062	-45.59	-13.00	-32.59	Vertical
4204.500	-50.74	-13.00	-37.74	Vertical
1175.000	-52.38	-13.00	-39.38	Horizontal
2123.437	-46.44	-13.00	-33.44	Horizontal
4788.750	-50.47	-13.00	-37.47	Horizontal

#### 7.1.2 Test Band = GSM 1900

#### 7.1.2.1.1 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
871.666	-54.87	-13.00	-41.87	Vertical
1185.320	-51.79	-13.00	-38.79	Vertical
4235.250	-50.08	-13.00	-37.08	Vertical
1236.160	-51.70	-13.00	-38.70	Horizontal
2112.780	-44.50	-13.00	-31.50	Horizontal
3822.375	-50.99	-13.00	-37.99	Horizontal

NOTE:

1) 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.



Report No.: SZEM170800849706 Page: 58 of 63

#### 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	-3.13	-0.00380	PASS
		LCH	ΤN	VN	2.45	0.00297	PASS
				VH	1.83	0.00222	PASS
				VL	-2.31	-0.00276	PASS
	GSM/TM1	MCH	ΤN	VN	-4.25	-0.00508	PASS
				VH	0.48	0.00057	PASS
			TN	VL	-5.24	-0.00617	PASS
COM		HCH		VN	-2.41	-0.00284	PASS
GSM 850				VH	3.85	0.00454	PASS
850			TN	VL	2.75	0.00334	PASS
		LCH		VN	-3.70	-0.00449	PASS
				VH	4.64	0.00563	PASS
		МСН	TN	VL	-2.45	-0.00293	PASS
	GSM/TM2			VN	1.09	0.00130	PASS
				VH	-4.37	-0.00522	PASS
				VL	-3.86	-0.00455	PASS
		HCH	TN	VN	2.45	0.00289	PASS
				VH	0.44	0.00052	PASS

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx</a>. Attention is drawn to the limitation of liability, indemnification and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction form exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 59 of 63

	1	1	1	1	Fage. 39 01 03				
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
				VL	1.43	0.00077	PASS		
		LCH	TN	VN	-4.13	-0.00223	PASS		
				VH	2.84	0.00153	PASS		
				VL	-5.24	-0.00279	PASS		
	GSM/TM1	MCH	ΤN	VN	2.80	0.00149	PASS		
				VH	-1.57	-0.00084	PASS		
		НСН	TN	VL	2.54	0.00133	PASS		
				VN	-6.42	-0.00336	PASS		
GSM				VH	3.06	0.00160	PASS		
1900		LCH	TN	VL	2.58	0.00139	PASS		
				VN	-2.08	-0.00112	PASS		
				VH	-1.37	-0.00074	PASS		
				VL	3.86	0.00205	PASS		
	GSM/TM2	MCH	ΤN	VN	-2.97	-0.00158	PASS		
				VH	2.15	0.00114	PASS		
				VL	4.82	0.00252	PASS		
		HCH	TN	VN	-2.54	-0.00133	PASS		
				VH	-1.88	-0.00098	PASS		



Report No.: SZEM170800849706 Page: 60 of 63

#### 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	-4.33	-0.00525	PASS
				-20	1.20	0.00146	PASS
				-10	0.69	0.00084	PASS
				0	-2.38	-0.00289	PASS
		LCH	VN	10	0.26	0.00032	PASS
				20	-4.54	-0.00551	PASS
				30	-1.60	-0.00194	PASS
				40	-0.53	-0.00064	PASS
				50	-6.21	-0.00753	PASS
				-30	-2.80	-0.00335	PASS
		TM1 MCH	VN	-20	-5.18	-0.00619	PASS
				-10	-0.79	-0.00094	PASS
GSM				0	-3.28	-0.00392	PASS
850	GSM/TM1			10	1.37	0.00164	PASS
				20	2.32	0.00277	PASS
				30	1.91	0.00228	PASS
				40	0.55	0.00066	PASS
				50	-4.35	-0.00520	PASS
				-30	-0.47	-0.00055	PASS
				-20	2.68	0.00316	PASS
				-10	-2.59	-0.00305	PASS
				0	-5.42	-0.00639	PASS
		НСН	VN	10	1.17	0.00138	PASS
				20	-2.78	-0.00328	PASS
				30	3.74	0.00441	PASS
				40	-1.63	-0.00192	PASS
				50	-4.20	-0.00495	PASS

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-enDocument.aspx</a>. Attention is drawn to the limitation of liability, indemnification and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction form exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM170800849706 Page: 61 of 63

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	1.96	0.00238	PASS
				-10	-5.37	-0.00652	PASS
				0	0.50	0.00061	PASS
		LCH	VN	10	-4.65	-0.00564	PASS
				20	-5.11	-0.00620	PASS
				30	-3.96	-0.00480	PASS
				40	-5.71	-0.00693	PASS
				50	-2.44	-0.00296	PASS
				-30	-1.91	-0.00228	PASS
				-20	3.29	0.00393	PASS
				-10	-4.24	-0.00507	PASS
GSM		МСН	VN	0	1.76	0.00210	PASS
850	GSM/TM2			10	-5.10	-0.00610	PASS
				20	-4.43	-0.00530	PASS
				30	-2.13	-0.00255	PASS
				40	-3.20	-0.00383	PASS
				50	-0.50	-0.00060	PASS
				-30	-3.21	-0.00378	PASS
				-20	-6.34	-0.00747	PASS
				-10	-2.33	-0.00275	PASS
				0	-5.24	-0.00617	PASS
		HCH	VN	10	1.07	0.00126	PASS
				20	-4.03	-0.00475	PASS
				30	-3.28	-0.00386	PASS
				40	-2.34	-0.00276	PASS
				50	-5.07	-0.00597	PASS



Report No.: SZEM170800849706 Page: 62 of 63

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-30	-3.55	-0.00192	PASS
				-20	-4.45	-0.00241	PASS
				-10	1.68	0.00091	PASS
				0	-3.48	-0.00188	PASS
		LCH	VN	10	-0.88	-0.00048	PASS
				20	1.08	0.00058	PASS
				30	-3.39	-0.00183	PASS
				40	-5.20	-0.00281	PASS
				50	-4.34	-0.00235	PASS
				-30	-4.56	-0.00243	PASS
			VN	-20	1.27	0.00068	PASS
				-10	-2.23	-0.00119	PASS
GSM		МСН		0	4.86	0.00259	PASS
1900	GSM/TM1			10	-3.15	-0.00168	PASS
				20	-6.29	-0.00335	PASS
				30	-3.27	-0.00174	PASS
				40	-8.09	-0.00430	PASS
				50	-5.11	-0.00272	PASS
				-30	-3.25	-0.00170	PASS
				-20	4.63	0.00242	PASS
				-10	1.85	0.00097	PASS
				0	-2.87	-0.00150	PASS
		HCH	VN	10	-3.18	-0.00167	PASS
				20	-4.54	-0.00238	PASS
				30	2.31	0.00121	PASS
				40	-2.92	-0.00153	PASS
				50	-5.24	-0.00274	PASS



Report No.: SZEM170800849706 Page: 63 of 63

	Page. 03 01 03						
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-30	-4.13	-0.00223	PASS
				-20	-4.00	-0.00216	PASS
				-10	1.68	0.00091	PASS
				0	-2.47	-0.00133	PASS
		LCH	VN	10	-2.55	-0.00138	PASS
				20	-4.08	-0.00221	PASS
				30	1.44	0.00078	PASS
				40	-3.20	-0.00173	PASS
				50	-5.31	-0.00287	PASS
			VN	-30	-6.44	-0.00343	PASS
				-20	-2.30	-0.00122	PASS
				-10	-4.15	-0.00221	PASS
GSM		МСН		0	1.59	0.00085	PASS
1900	GSM/TM2			10	-5.35	-0.00285	PASS
				20	-2.66	-0.00141	PASS
				30	-3.27	-0.00174	PASS
				40	0.73	0.00039	PASS
				50	-4.14	-0.00220	PASS
				-30	-3.43	-0.00180	PASS
				-20	2.62	0.00137	PASS
				-10	1.47	0.00077	PASS
				0	-5.20	-0.00272	PASS
		НСН	VN	10	-4.51	-0.00236	PASS
				20	-1.33	-0.00070	PASS
				30	-2.77	-0.00145	PASS
				40	-2.42	-0.00127	PASS
				50	-6.26	-0.00328	PASS

The End

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.