Appendix G: Test Data for E-UTRA Band 17

Product Name: 5 inch 4G Smart Phone Trade Mark: LOGIC, iSWAG, UNONU Test Model: L50T

Environmental Conditions

Temperature:	22.6 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Wang.Chuang
Supervised by:	TOM.LIU

Appendix G.1: Effective (Isotropic) Radiated Power Output Data

Test Result

Channel Bandwidth: 5 MHz

	Channel Bandwidth: 5 MHz									
Modulation	Channel	RB Configuration		Average Power [dBm]	E.i.r.p [dBm]	Verdict				
	onannor	Size	Offset			Voraiot				
		1	0	22.02	21.12	PASS				
		1	12	22.34	21.44	PASS				
		1	24	22.13	21.23	PASS				
	LCH	12	0	21.10	20.20	PASS				
		12	6	21.15	20.25	PASS				
		12	13	21.16	20.26	PASS				
		25	0	21.17	20.27	PASS				
	МСН	1	0	22.15	21.25	PASS				
QPSK			1	12	22.46	21.56	PASS			
QPSK		1	24	22.11	21.21	PASS				
		12	0	21.18	20.28	PASS				
		12	6	21.18	20.28	PASS				
		12	13	21.07	20.17	PASS				
		25	0	21.14	20.24	PASS				
		1	0	22.09	21.19	PASS				
		1	12	22.35	21.45	PASS				
	HCH	1	24	22.00	21.10	PASS				
		12	0	21.14	20.24	PASS				

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<u>SHENZH</u>	SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD.				D. FCC ID: 055503	719 Report No.: L	CS190923018AEG
			12	6	21.20	20.3	PASS
			12	13	21.09	20.19	PASS
			25	0	21.13	20.23	PASS
			1	0	21.40	20.5	PASS
			1	12	21.75	20.85	PASS
			1	24	21.48	20.58	PASS
		LCH	12	0	20.30	19.40	PASS
			12	6	20.35	19.45	PASS
			12	13	20.34	19.44	PASS
			25	0	20.22	19.32	PASS
		мсн	1	0	21.11	20.21	PASS
			1	12	21.43	20.53	PASS
			1	24	21.11	20.21	PASS
	16QAM		12	0	20.27	19.37	PASS
			12	6	20.26	19.36	PASS
			12	13	20.11	19.21	PASS
			25	0	20.18	19.28	PASS
			1	0	21.18	20.28	PASS
			1	12	21.56	20.66	PASS
		1	24	21.13	20.23	PASS	
	НСН	12	0	20.24	19.34	PASS	
			12	6	20.29	19.39	PASS
			12	13	20.17	19.27	PASS
			25	0	20.20	19.30	PASS

Channel Bandwidth: 10 MHz

			Channe	l Bandwidth: 10 MHz		
Modulation	Channel	RB Conf	iguration	Average Power [dBm]	E.i.r.p [dBm]	Verdict
Woddiation	Onannei	Size	Offset	Average i ower [ubiii]		Verdict
		1	0	22.08	21.18	PASS
		1	24	22.38	21.48	PASS
		1	49	22.16	21.26	PASS
	LCH	25	0	21.20	20.30	PASS
		25	12	21.21	20.31	PASS
		25	25	21.14	20.24	PASS
ODOK		50	0	21.14	20.24	PASS
QPSK		1	0	22.14	21.24	PASS
	1	1	24	22.41	21.51	PASS
		1	49	22.15	21.25	PASS
	MCH	25	0	21.23	20.33	PASS
		25	12	21.22	20.32	PASS
		25	25	21.18	20.28	PASS
		50	0	21.17	20.27	PASS

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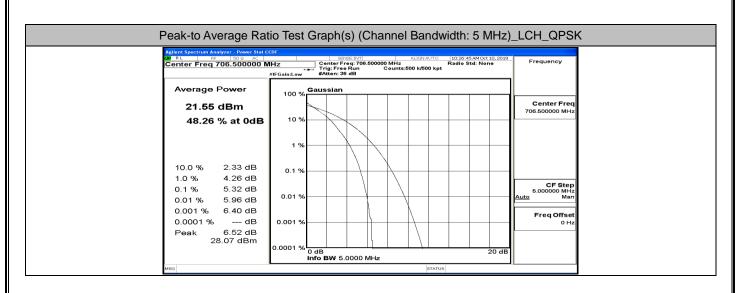
ENZHEN LCS COMPL	LIANCE TEST	TING LABO	<u>RATORY LTL</u>	D. FCC ID: 0555037	719 Report No.: 1	LCS190923018A
		1	0	22.16	21.26	PASS
		1	24	22.37	21.47	PASS
		1	49	22.12	21.22	PASS
	HCH	25	0	21.21	20.31	PASS
		25	12	21.17	20.27	PASS
		25	25	21.19	20.29	PASS
		50	0	21.21	20.31	PASS
		1	0	21.35	20.45	PASS
		1	24	21.62	20.72	PASS
		1	49	21.41	20.51	PASS
	LCH	25	0	20.20	19.30	PASS
		25	12	20.23	19.33	PASS
		25	25	20.14	19.24	PASS
		50	0	20.17	19.27	PASS
		1	0	21.39	20.49	PASS
		1	24	21.64	20.74	PASS
		1	49	21.40	20.50	PASS
16QAM	MCH	25	0	20.24	19.34	PASS
		25	12	20.25	19.35	PASS
		25	25	20.18	19.28	PASS
		50	0	20.18	19.28	PASS
		1	0	21.54	20.64	PASS
		1	24	21.75	20.85	PASS
		1	49	21.47	20.57	PASS
	НСН	25	0	20.26	19.36	PASS
		25	12	20.24	19.34	PASS
		25	25	20.21	19.31	PASS
		50	0	20.26	19.36	PASS

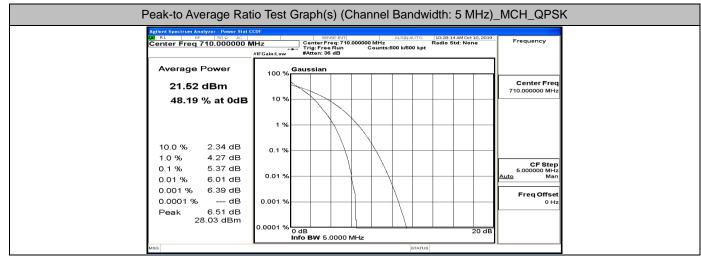
G.2: Peak-to-Average Ratio

Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
wodulation	Channel	[dB]	[dB]	verdict			
	LCH	5.32	<13	PASS			
QPSK	MCH	5.37	<13	PASS			
	НСН	5.35	<13	PASS			
	LCH	6.18	<13	PASS			
16QAM	MCH	6.15	<13	PASS			
	НСН	6.19	<13	PASS			

	Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)							
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict				
QPSK	LCH	5.4	<13	PASS				
	MCH	5.41	<13	PASS				
	НСН	5.42	<13	PASS				
	LCH	6.12	<13	PASS				
16QAM	MCH	6.13	<13	PASS				
	НСН	6.14	<13	PASS				

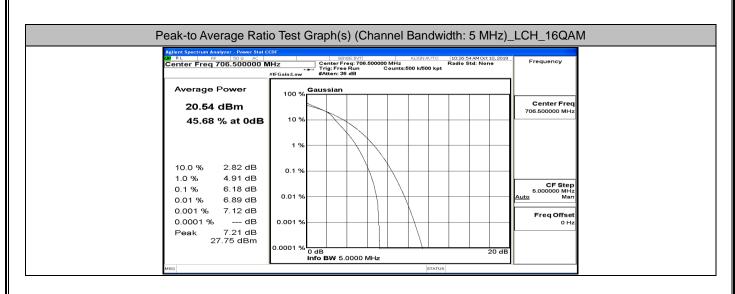
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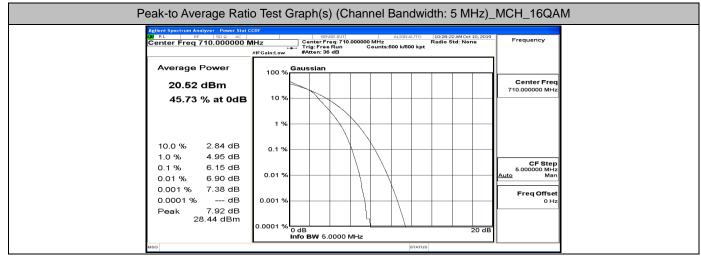




Agilent Spectrum Analyzer - Power Stat C(SENSE:INT ALIGN AUTO 10:29:43 AM Oct 10, 2019	H_QPSk
Center Freq 713.500000 M Average Power	HZ Center Free; 713.500000 MHz Radio Std: None IFGaln:Low Atten: 36 dB 100 % Gaussian	requeries
21.58 dBm 47.91 % at 0dB		Center Freq 13.500000 MHz
10.0 % 2.35 dB 1.0 % 4.28 dB	0.1 %	
0.1 % 5.35 dB 0.01 % 5.95 dB 0.001 % 6.22 dB	0.01 %	CF Step 5.000000 MHz Man Freq Offset
0.0001 % dB Peak 6.45 dB 28.03 dBm	0.001 %	0 Hz
MBG	STATUS	

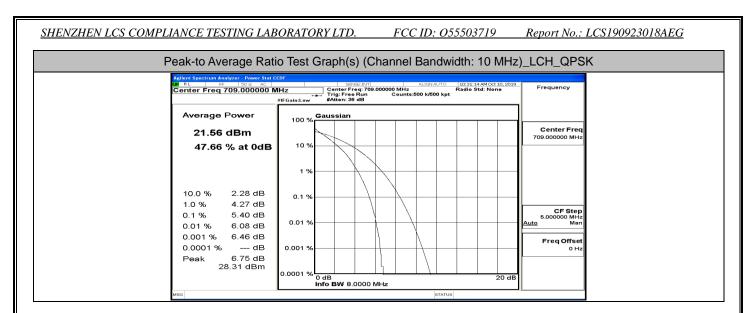
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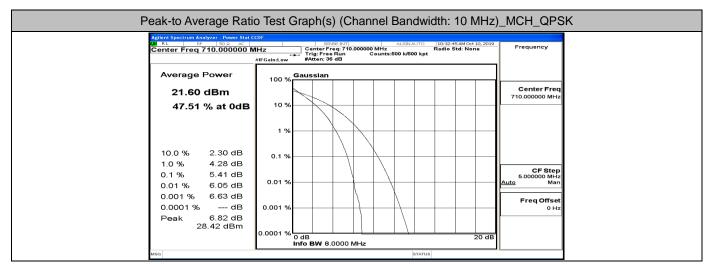




Agilent Spectrum Analyzer. Power Stat C 12 RL RF ISO Ω AC Center Freq 713.500000 M	SENSE:INT ALIGN AUTO 10:29:51 AM Oct 10, 2019	HCH_16QAM
Average Power 20.60 dBm 45.54 % at 0dB	100 % Gaussian	Center Freq 713.500000 MHz
10.0 % 2.84 dB	1 %	
1.0 % 4.90 dB 0.1 % 6.19 dB 0.01 % 6.81 dB 0.001 % 7.23 dB	0.01 %	CF Step 5.000000 MHz Auto Man Freq Offset
0.0001 % dB Peak 7.33 dB 27.93 dBm	0.001 % 0.0001 % 0 dB 0 dB 0 dB 0 dB 0 dB 0 dB 0 dB 0 dB	0 Hz

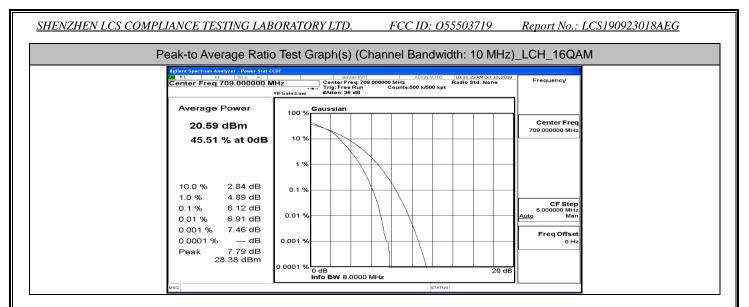
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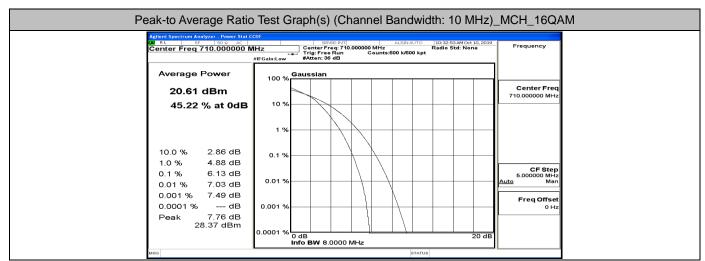




Peak-to Average Rati	o Test Graph(s) (Channel Bandwidth: 10 MHz	
Center Freq 711.000000 N		Frequency
21.61 dBm 47.04 % at 0dB	10 %	Center Freq 711.000000 MHz
10.0 % 2.30 dB 1.0 % 4.31 dB	0.1 %	
0.1 % 5.42 dB 0.01 % 6.11 dB	0.01 %	CF Step 5.000000 MHz <u>Auto</u> Man
0.001 % 6.75 dB 0.0001 % dB Peak 6.86 dB 28.47 dBm	0.001 %	Freq Offset 0 Hz
мва	0.000 M / 0 dB 20 dB 20 dB 10 for BW 8.0000 MHz	

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Agilent Spectrum Analyzer - Power Stat		_HCH_16QA
Center Freq 711.000000 / Average Power	Image: Several procession Several procession Align Autor 100 Several procession Align Autor 100 Several procession Align Autor 100 Several procession Align Autor Align Autor Align Autor 100 Several procession Align Autor Align Autor Align Autor In Deside Autor Align Autor Align Autor Align Autor Align Autor In Deside Autor Align Autor Align Autor In Deside Autor Align Autor In Deside Autor	Frequency
20.62 dBm 45.02 % at 0dB 10.0 % 2.86 dB		Center Freq 711.000000 MHz
1.0 % 4.91 dB 0.1 % 6.14 dB 0.01 % 6.84 dB 0.001 % 7.35 dB 0.0001 % dB	0.01 %	CF Step 5.000000 MHz Man Freq Offset 0 Hz
Peak 7.65 dB 28.27 dBm	0.0001 % 0 dB 20 dB Info BW 8.0000 MHz	

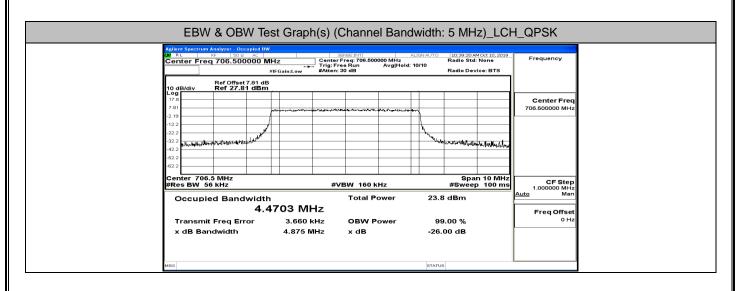
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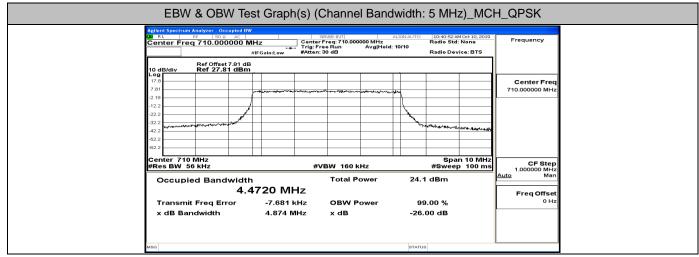
G.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 5 MHz)								
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict				
MODUIATION	Channel	(MHz)	(MHz)	Verdici				
	LCH	4.4703	4.875	PASS				
QPSK	MCH	4.4720	4.874	PASS				
	НСН	4.4885	4.887	PASS				
	LCH	4.4705	4.877	PASS				
16QAM	MCH	4.4790	4.843	PASS				
	НСН	4.4828	4.906	PASS				

	EBW & OBW Te	est Result (Channel Band	dwidth: 10 MHz)	
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
wodulation	Channel	(MHz)	(MHz)	Verdict
	LCH	8.9459	9.530	PASS
QPSK	MCH	8.9373	9.534	PASS
	HCH	8.9362	9.535	PASS
	LCH	8.9340	9.497	PASS
16QAM	MCH	8.9308	9.420	PASS
	НСН	8.9465	9.517	PASS

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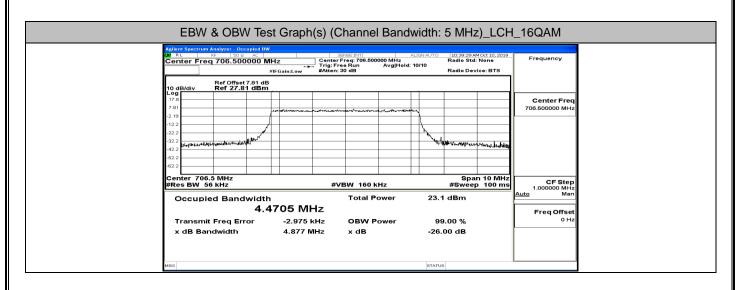


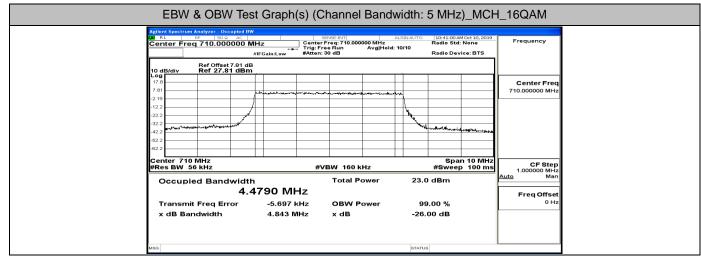


Center Freq 713.500000	MHz	SENSE:INT		10:42:24 AMOct 1 Radio Std: Non	
		Trig: Free Run Av #Atten: 30 dB	Hold: 10/10	Radio Device: E	BTS
Ref Offset 7.81 d 10 dB/div Ref 27.81 dB Log					
7.81	-		man		Center Freq 713.500000 MHz
-2.19 -12.2	1				
-22.2 -32.2			- Doughanger		
-42.2				1211111.00,00,00 (helen	ante-artest
-62.2					
Center 713.5 MHz #Res BW 56 kHz		#VBW 160 kHz		Span 10 #Sweep 10	
Occupied Bandwid		Total Powe	r 23.	9 dBm	<u>Auto</u> Man
_	.4885 MH		0.00.1/	Freq Offset	
Transmit Freq Error x dB Bandwidth	-5.168 kH 4.887 MH			9.00 % 5.00 dB	0112

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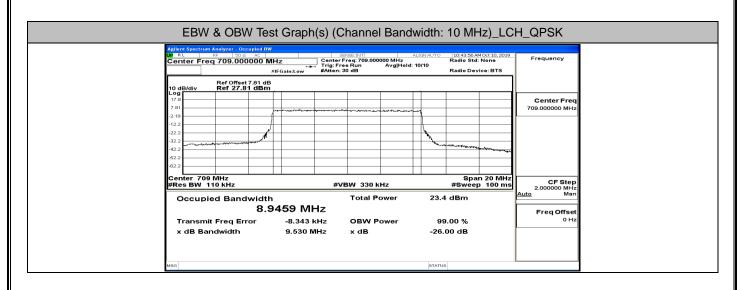


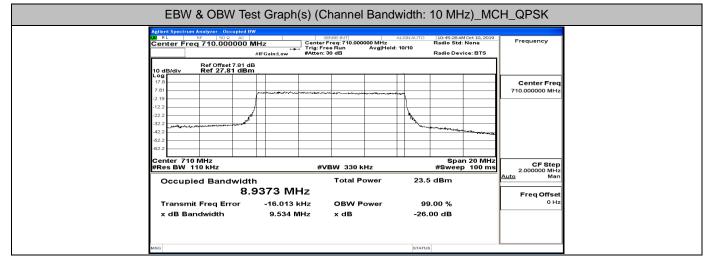


Center Freq 713.500000 Ν	IHZ Center	Freq: 713.500000 MHz	ALIGNAUTO 10:42:32 AM Oct 10, 2 Radio Std: None	Frequency
	#IFGain:Low #Atten:		I: 10/10 Radio Device: BTS	_
Ref Offset 7.81 dB 10 dB/div Ref 27.81 dBm				
Log 17.8				Center Freq
-2.19	monton and a second second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		713.500000 MHz
-12.2	/			_
-22.2			Nu	
-42.2 merentermarketing the state of the			mage - a provider of the state	utre .
-62.2				
Center 713.5 MHz			Span 10 M	HZ CF Step
#Res BW 56 kHz	#V	BW 160 kHz	#Sweep 100 i	1.000000 MHz Auto Man
Occupied Bandwidth		Total Power	23.1 dBm	Hato
	4828 MHz			Freq Offset
Transmit Freq Error	2.790 kHz	OBW Power	99.00 %	0 Hz

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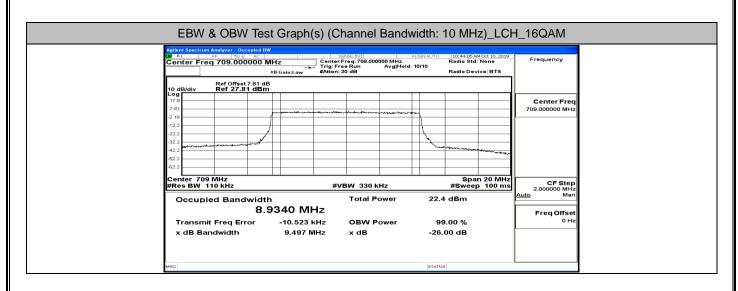


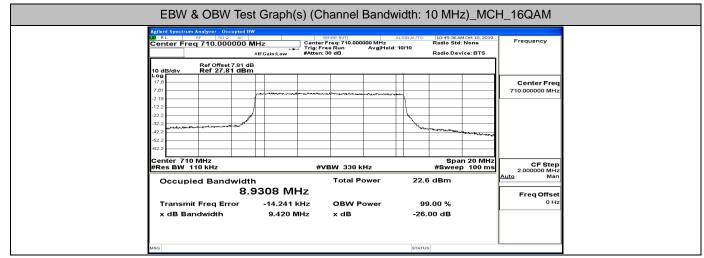


Center Freq 711.00000	0 MHz	SENSE:INT Center Freq: 711.00 Trig: Free Run #Atten: 30 dB		IGN AUTO	Radio Std:		Frequency			
	Ref Offset 7.81 dB									
Log 17.8 7.81		anno-1-11.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-1.201-					Center Freq 711.000000 MHz			
-2.19 -12.2 -22.2 -32.2				here have been a second						
-42.2 -62.2 -62.2					when my have	handle and a sector sector				
Center 711 MHz #Res BW 110 kHz		#VBW 330	kHz			n 20 MHz 0 100 ms	CF Step 2.000000 MHz			
Occupied Bandwid	_{dth} 8.9362 MH	Total F	ower	23.4	dBm	Auto Man Freq Offset				
Transmit Freq Error x dB Bandwidth	-2.390 k 9.535 M		Power	99.00 % -26.00 dB			0 Hz			

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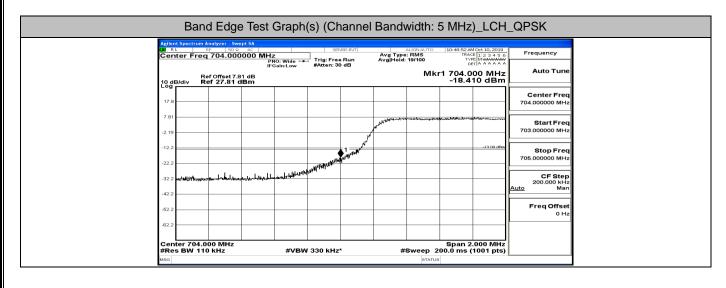


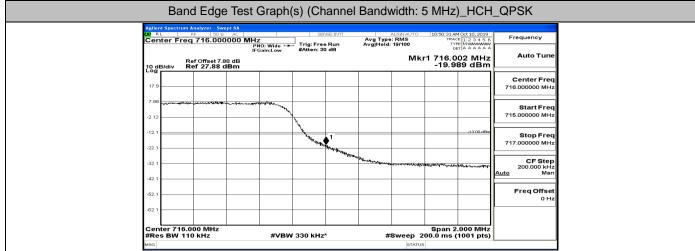


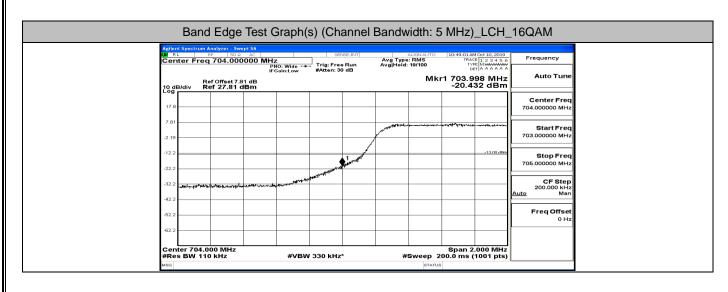
Center Freq 711.000000	MHz Center Trig: Fr	Freq: 711.000000 MHz ee Run Avg Hold:	ALIGNAUTO 10:47:09 AMOct 10, 20: Radio Std: None 10/10	Frequency					
Ref Offset 7.81 10 dB/div Ref 27.81 dB	#IFGain:Low #Atten:	30 dB	Radio Device: BTS						
17.8 7.81				Center Fred 711.000000 MHz					
-2.19 -12.2 -22.2									
-32.2 -42.2 -62.2									
Genter 711 MHz			Span 20 MH	-					
#Res BW 110 kHz		/BW 330 kHz	#Sweep 100 m						
	Occupied Bandwidth Total Power 22.6 dBm 8.9465 MHz								
Transmit Freq Error x dB Bandwidth	-5.117 kHz 9.517 MHz	OBW Power x dB	99.00 % -26.00 dB	Freq Offset 0 Hz					

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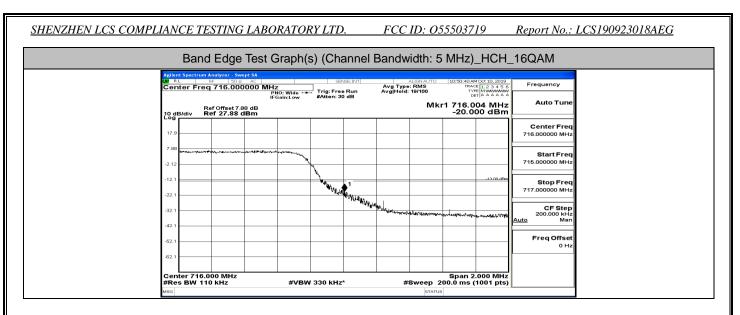
G.4 Band Edge







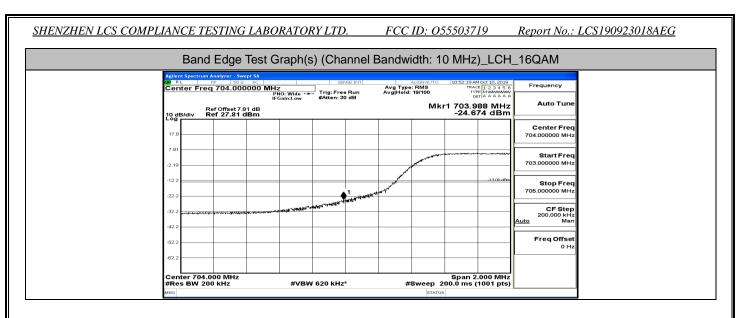
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		Band	Edge	Test C	Graph(s) (Ch	annel	Bandw	idth: 1	0 MHz	:)_LC⊦	I_QPSK
100	RL	RI	nalyzer - Swe F 50 Ω 704.000	AC 000 MHz PN	O: Wide		Run	Avg Type Avg Hold:	LIGN AUTO RMS 19/100	10:52:10 AM TRACE TYPE	Oct 10, 2019 1 2 3 4 5 6 MWWWWW r A A A A A A	Frequency
10	0 dB/	Re /div Re	f Offset 7.8 f 27.81 d	1 dB	3ain:Low	#Atten: 30			Mkr	1 703.99		Auto Tune
1	17.8											Center Freq 704.000000 MHz
	7.81 - 2.19 -										-uniteration	Start Freq 703.000000 MHz
	2.2 =						1 n	al and a second			-13.00 dBm	Stop Freq 705.00000 MHz
	2.2	angelanauu		Quarter and 20000	- the same of the same of the	-market	and the second second					CF Step 200.000 kHz
	i2.2 -											Auto Man Freq Offset
	52.2 - 52.2 -											0 Hz
		er 704.00 BW 200			#VBW	620 kHz	v	#\$		Span 2. 00.0 ms (1	000 MHz 1001 pts)	
MS	3G								STATUS			

	Ba	and I	Edge	Test C	Graph(s) (Ch	annel	Bandw	idth: 1	0 MHz	:)_HCF	I_QPSK
LXI	R L	RF	19207 - Swo 50 Ω 16.000	AC 1000 MH: P	NO: Wide 🔸		e Run	Avg Type Avg Hold:	ALIGN AUTO : RMS 19/100	10:53:50 AM TRACI TVP DE	E 1 2 3 4 5 6 E MWWWWW T A A A A A A	Frequency
10 d	B/div	Ref (Ref	Offset 7.8 27.88 c	8 dB	Gain:Low	#Atten: 3			Mkr	1 716.0	04 MHz 53 dBm	Auto Tune
17.	ə —											Center Freq 716.000000 MHz
-2.1	2		dan kanadin din syaka									Start Freq 715.000000 MHz
-12.	-				N. N						-13.00.dBm	Stop Freq 717.000000 MHz
-22.						and and a state of the state of	T-upoport-words	T-17-10-10-10-10-10-10-10-10-10-10-10-10-10-		~	******	CF Step 200.000 kHz
-42.		-										<u>Auto</u> Man Freq Offset
-62.												0 Hz
		16.000 / 200 k			#VBW	620 kHz	*	#	Sweep 2		.000 MHz 1001 pts)	
MSG									STATUS			

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Align Spectrum Analyzer. Sweet St. Align Autor 10:03:399AMOR10,2019 Frequency Center Freq 716.000000 MHz Center Freq 716.000 MHz Center Freq 715.00000 MHz Cer Step 20.000 KHz Cer		Bar	nd Edge T	Fest G	raph(s) (Cha	nnel B	andwi	dth: 10) MHz)	HCH	_16QAM
Log Center Freq 17.9	Cer Cer	nter F	RF 50 Ω req 716.000 Ref Offset 7.8	AC OOO MHz PN IFG B dB	O: Wide -	Trig: Free	Run		: RMS 19/100	TRAC TYP DE 1 716.0		
2.12 2.12 1.21 2.12 1.21 2.12 1.21	Log	'										
221 1<				war and the second	N. 4.							
-52.1 Freq Offset						**	1				-13.00.dBm	717.000000 MHz
		1					- TOTAN MANA	and the second secon	NY4-1	*********		200.000 kHz
	-52.1	1										Freq Offset 0 Hz
Center 716.000 MHz #Res BW 200 kHz #VBW 620 kHz* #Sweep 200.0 ms (1001 pts)	#Re				#VBW	620 kHz	*	#\$		00.0 ms (