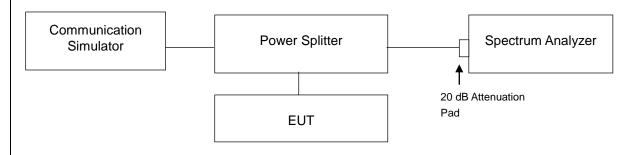


4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission is equal to -13 dBm.

4.6.2 Test Setup



4.6.3 Test Procedure

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 30MHz to 1 GHz and 1 GHz to 10GHz for LTE Band 12/13/17 and from 30MHz to 1 GHz, 1 GHz to 10GHz, and 10 GHz to 26.5GHz for WCDMA/LTE Band 4. 10 dB attenuation pad is connected with spectrum. RBW = 100 kHz and VBW = 300 kHz are used for conducted emission measurement.



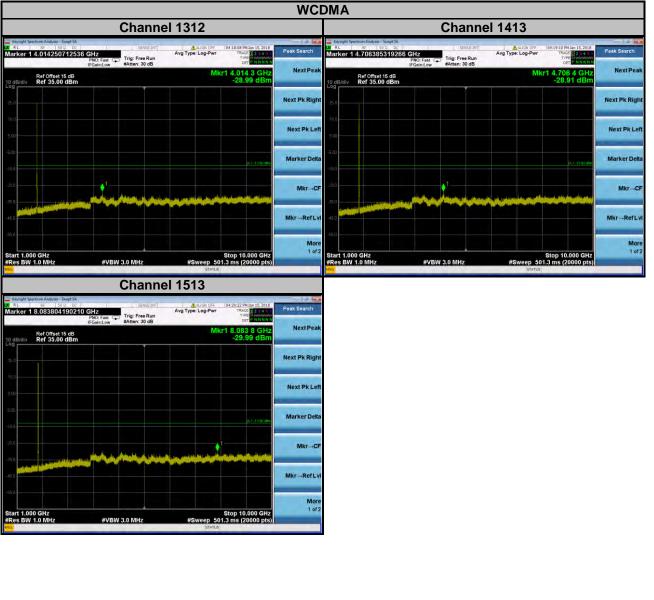
4.6.4 Test Results

WCDMA

			WCI	AMC		
	Channe	el 1312		Chann	el 1413	
	PNO: Fast Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr 104:12-37 PH Jan 15, 2018 Avg Type: Log-Pwr 174/2 11 2 4 4 5 7996 00000000000000000000000000000000000	Peak Search Next Peak	R. Wey September 2000 Sept Sector 2000 Sec	Aug Type: Log-Pwr TRACE N2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Peak Search Next Peak
Ref Offset 15 dB 10 dB/div Ref 35.00 dBm		-37.27 dBm		Ref Offset 15 dB 10 dB/div Ref 35.00 dBm Log	-36.95 dBm	
15.0			Next Pk Right	15.0		Next Pk Right
5.00			Next Pk Left	5.00		Next Pk Left
-15.0		D.3.1200.409	Marker Delta	-150	0.1.(3.0) dby	Marker Delta
-25.0		1	Mkr→CF	30		Mkr→CF
45 D			Mkr→RefLvi	From the particular intervent and an annual second second second second sec		Mkr→RefLvi
Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts)	More 1 of 2	Start 0.0300 GHz #Res BW 1.0 MHz #VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts)	More 1 of 2
	Channe	el 1513				
keysget Spectrum Analyzer - Swept SA RL 8F 50 0 00 Marker 1 913.374668733 MH	PNO: Fast Floain:Low #Atten: 30 dB	Augroff 04:20:02 PM Jan 15, 2018 Avg Type: Log-Pwr TRACE TO A TYPE Det Augroff Det A TYPE	Peak Search			
Ref Offset 15 dB		Mkr1 913.37 MHz -36.86 dBm	Next Peak			
25.0			Next Pk Right			
5.00			Next Pk Left			
-15,0		0.1.1200-00-	Marker Delta			
-3.0			Mkr→CF			
-45 D			Mkr→RefLvi			
Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts)	More 1 of 2			
MG		STATUS				



1GHz ~ 10GHz





10GHz ~ 26.5GHz

		WCE	AMA			
	nel 1312			Channe	el 1413	
wyody Spectrum Androw - Swort SA Rev 99 59 0 DC rker 1 26,298689934497 GHz PNO: Fast IFGainLow #Atten: 30 dB	Avg Type: Log-Pwr TRACE 1214	Peak Search Next Peak	Keysight Spectrum Analyzer - Swept SA RL RF 50 0 00 Marker 1 26,472773638682	CHZ PNO: Fast Trig: Free Run IFGoin:Low #Atten: 30 dB	Avg Type: Log-Pwr TRAC TVI DI	ET P NNNN
Ref Offset 15 dB B/div Ref 35.00 dBm	Mkr1 26.298 7 GHz -25.14 dBm	NextPeak	Ref Offset 15 dB 10 dB/div Ref 35.00 dBm		Mkr1 26.47 -25.	2 8 GH 66 dBn
		Next Pk Right	75.0			
		Next Pk Left	500			
	K.1-(100-db-	Marker Delta	-15.0			DCT - 13 20 eB+
and the second		Mkr⊸CF	-25.0 -36.0			
		Mkr→RefLvi	-450			
art 10.000 GHz tes BW 1.0 MHz #VBW 3.0 MHz	Stop 26.500 GHz #Sweep 501.3 ms (20000 pts)	More 1 of 2	Start 10.000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 26 #Sweep 501.3 ms (2	.500 GHz 20000 pts)
Chan	nel 1513				MINING	
Avright Spectrum Analyzer - Swept SA RL RF S9 0 DC Fker 1 26:3565343317166 GHz PNO: Fast IFGein:Low #Atten: 30 dB	NT 04/20:44 PM Jan 15, 2018 Avg Type: Log-Pwr TRACE 12 ar 15, 2018 TRACE 12 ar 15 ar	Peak Search Next Peak				
Ref Offset 15 dB Bidiy Ref 35.00 dBm	Mkr1 26.366 3 GHz -25.32 dBm	NextFeak				
		Next Pk Right				
		Next Pk Left				
	0.1 - (3 00 db)	Marker Delta				
the bid for the second		Mkr→CF				
		Mkr→RefLvi				



				LTE B	and 4			
			Chann	el Band	width: 1.4 M			
	Channe	l 19957				Channe	l 20175	
Naysight Spectnum Analyzer - Swept SA RL RF S0 D DC Marker 1 830.241512076 MHz PN IFG	O: Fast ain:Low #Atten: 30 dB	Avg Type: Log-Pwr	10:29:55 PM Jan 17, 2018 TRACE 1 2 3 4 TVPE REMOVED	Peak Search	Keysight Spectrum Analyzer - Swept SA R RL RF 500 00 Marker 1 750.26101305	C SENSE:INT	ALIGN OFF 10:28:17 PM Jan 17, 2018 Avg Type: Log-Pwr TRACE 12 FT TYPE TWO DET PNNKN	Peak Search
Ref Offset 15 dB		M	kr1 830.24 MHz -37.09 dBm	Next Peak	Ref Offset 15 dB		Mkr1 750.26 MHz -37.02 dBm	NextPeak
25.0				Next Pk Right	25.0			Next Pk Right
5.00				Next Pk Left	5.00			Next Pk Lef
-5.00			D. 1 - 13 80 489	Marker Delta	-15.0		D. 1-13 (0) (d) (Marker Delta
				Mkr→CF	-250		1	Mkr→CF
450 5511				Mkr→RefLvi	-45 0 -55 U			Mkr→RefLv
Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	#Sweep 50	Stop 1.0000 GHz 1.3 ms (20000 pts)	More 1 of 2	Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts)	More 1 of 2
	Channe	I 20393						
Keysight Spectrum Analyzer - Swept SA RE RF S0 0 DC Marker 1 869,964998250 MHz PN	0: Fast ain:Low #Atten: 30 dB	Augnor Avg Type: Log-Pwr	10:26:35 PM Jan 17, 2018 TRACE 1 2 3 4 5 TYPE 1	Peak Search				
Ref Offset 15 dB 10 dB/div Ref 35.00 dBm	ain:Low #Atten: 30 dB	M	kr1 869.96 MHz -36.57 dBm	Next Peak				
15.0				Next Pk Right				
5:00				Next Pk Left				
-15.0			0.1-1270 dbs	Marker Delta				
250 550	and you from a self-denie material a sine wateria yo	and in the Constant Part of Second Dis	1	Mkr→CF				
450				Mkr→RefLvi More				
Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Stop 1.0000 GHz 1.3 ms (20000 pts)	1 of 2				



		Chan	LTE B	and 4 dwidth: 3 MH	17		
	Channe			Channel	20175		
Reveget Spectrum Analyzer - Swept SA RL RF 500 DC Aarker 1 935.782789139 MHz IPRG	SENSE:INT	Augn OFF 10:34:12 PH Jan 17,201 Avg Type: Log-Pwr TRADE 12 VPF Det Autom	P Bak Search	Keynight Spectrum Analyzer Swept SA I RF S0 D DC Marker 1 948.247912391	SENSE: INT	ALIGN OFF 10:33:06 PM Ian 17, 2018 Avg Type: Log-Pwr TRACE TO THE TOTAL TYPE TYPE LOG-Pwr TRACE TO THE TOTAL TYPE	Peak Search
Ref Offset 15 dB dB/div Ref 35.00 dBm		Mkr1 935.78 MH -36.74 dBr	z Next Peak	Ref Offset 15 dB		Mkr1 948.25 MHz -36.95 dBm	Next Pe
5.0			Next Pk Right	25.0			Next Pk Rig
.0			Next Pk Left	5.00			Next Pk L
£0.		0.1.1320 db	Marker Delta	-15.0		0.1-11.00 d b e	Marker De
50 60		• ¹	Mkr→CF	-25.0			Mkr-4
5 D			Mkr→RefLvi	-45 D			Mkr→Refi
tart 0.0300 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GH #Sweep 501.3 ms (20000 pts	More 1 of 2	Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts)	Me
a <mark>.</mark>	Channe	STATUS		MSG		STATUS	
Keysight Spectrum Analyzer - Swept SA RL RF 50.0 DC Iarker 1 811.568078404 MHz	SENSE: INT	ALIGN OFF 10:31:49 PM Jan 17, 201 Avg Type: Log-Pwr TRACE	Peak Search				
PN0 IFG0	D: Fast Trig: Free Run #Atten: 30 dB	Mkr1 811.57 MH	z NextPeak				
o dB/div Ref 35.00 dBm		-37.21 dBr	Next Pk Right				
5.0			Next Pk Left				
.00			Marker Delta				
5.0. 5.0			Mkr→CF				
s o Laster and a possible on a constant of a S o	ne na hered her framme versprece a dig se bieren. Menne versprece andere se bieren andere se		Mkr→RefLvi				
art 0.0300 GHz		Stop 1.0000 GH	More 1 of 2				
Res BW 1.0 MHz	#VBW 3.0 MHz	#Sweep 501.3 ms (20000 pts	5)				



		Chan		and 4 dwidth: 5 MH	7		
	Channe			Channel 20175			
	Z NO: Fest Trig: Free Run Gain:Low #Atten: 30 dB	ALIGN OFF. 18-27-53 PM Jan 17, 2018 Avg Type: Log-Pwr TR405 2 - 4 Tres Streemen Def Filling	Peak Search	Keysight Spectrum Analyzer - Swept SA R RL RE S9 D DC Marker 1 853.765188259	PNO: Fast Ting: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr	
Ref Offset 15 dB Ref 35.00 dBm		Mkr1 897.47 MHz -37.26 dBm		10 dB/div Ref 35.00 dBm		MIKE	-37.17 dBm
5.0			Next Pk Right	15.0			Next Pk Ri
5.00			Next Pk Left	5.00			Next Pk L
5.0		041-1330- 0 4	Marker Delta	-5.00			201-1920rdbe Marker D
50 80		i a la composición de la composicinde la composición de la composición de la composi	Mkr→CF	-250 		a atha a ann	Mkr-
50			Mkr→RefLvi	-45 0			Mkr-Ref
tart 0.0300 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts	More 1 of 2	Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	St #Sweep 501.3	op 1.0000 GHz ms (20000 pts)
	Channe	STATUS		MSG		STATUS	
Keysight Spectrum Analyzer - Swept SA RL RF S8 0 DC Janker 1 806 184309215 MH	SENSE-INT	A MIGN OCC 110-25-20 DM IN: 17 2018	Peak Search				
Ref Offset 15 dB dB/div Ref 35.00 dBm	NO: Fast 🖵 Trig: Free Run Gein:Low #Atten: 30 dB	Avg Type: Log-Pwr TRACE 12 4 4 TYPE DET FINNEN Mkr1 806.18 MHz -37.06 dBrr	NextPeak				
5.0			Next Pk Right				
5.00			Next Pk Left				
50		D.1.19.00 db	Marker Delta				
šiā		1	Mkr→CF				
5 0			Mkr→RefLvi				
6.0			More 1 of 2				



			Chann	LTE B	and 4 width: 10 MI	Hz			
	Channe		Unann	ler Barra	Channel 20175				
Report 1846.004800240 MHz RL 85 1590 0C Marker 1 846.004800240 MHz IFG Ref Offset 15 dB It dB/div Ref 35.00 dBm	0: Fast Trig: Free Run ain:Low #Atten: 30 dB	Mkr1 8	11:58 PM Jan 17, 2018 TRACE 1 2 14 TYPE II DET P. NINNINN 846.00 MHz	Peak Search Next Peak	Ref Offset 15 dB Ref Offset 15 dB 10 dB/dlv Ref 35.00 dBm	PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr	10-44 PH Jan 17, 2018 TRACE 12.2.018 TRACE 12.2.018 TRACE 12.2.018 Peak Search Next Pe 36,47 dBm	
o dB/div Ref 35.00 dBm			-37.04 dBm	Next Pk Right	Log			Next Pk Rig	
5.0				Next Pk Left	5.00			Next Pk L	
5.0			DL1-19.00 dBm	Marker Delta	-15.0			Marker Do	
ŝŭ		•	1	Mkr→CF	-25.0		•1	Mkr-	
50 50				Mkr→RefLvi	-45 0			Mkr→Ref	
tart 0.0300 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Sto #Sweep 501.3 n	p 1.0000 GHz ns (20000 pts)	More 1 of 2	Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Sto #Sweep 501.3 r	p 1.0000 GHz ns (20000 pts)	
	Channe	I 20350							
Ref Offset 15 dB	O: Fast Trig: Free Run ainLow #Atten: 30 dB	Avg Type: Log-Pwr	99:28 PM Jan 17, 2018 TRADE 1 2 4 4 TVPE 1 2 4 DET P NINN N 991.32 MHz -37.13 dBm	Peak Search Next Peak					
5.0 dB/dlv Ref 35.00 dBm				Next Pk Right					
0				Next Pk Left					
6.0			DC1 - 10.00 dBm	Marker Delta					
10 50 The state with the fill of the state o	and the state of the	on subsequent stored better laws		Mkr→CF					
50 m	a na ann an Anna Anna Anna Anna Anna An			Mkr→RefLvi More					
	#VBW 3.0 MHz	Sto #Sweep 501.3 n	p 1.0000 GHz	1 of 2					



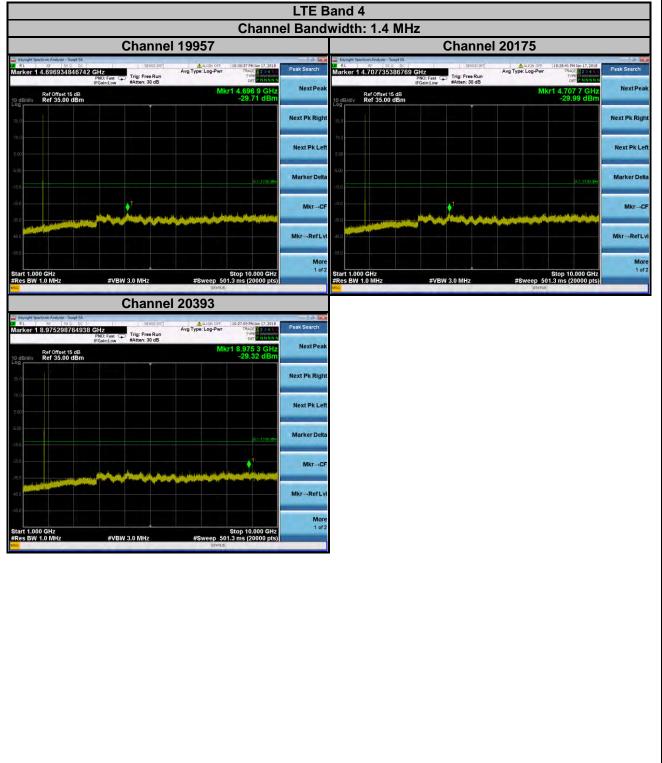
			LTE B nannel Band		Hz		
	Channe				Channel	20175	
RL RF 50 DC Aarker 1 791.003050153 MHz PF	0: Fast ain:Low #Atten: 30 dB	Avg Type: Log-Pwr TRAD	Feak Search	Keysight Spectrum Analyzer - Swept SA R RL RF S0 D DC Marker 1.923.02665133	3 MHz PNO: Fast Trig: Free Run IFGein.tow #Atten: 30 dB	ALIGN OFF 10:44:26 PM Jan 17, 20 Avg Type: Log-Pwr TRACE 19 First TYPE From Der	B Peak Search
Ref Offset 15 dB 0 dB/div Ref 35.00 dBm		Mkr1 791. -37.2	00 MHz NextPeak 25 dBm	Ref Offset 15 dB 10 dB/div Ref 35.00 dBn		Mkr1 923.03 Mi -36.26 dB	n Next Pe
15.0			Next Pk Right	25.0			Next Pk Rig
.00			Next Pk Left	5.00			Next Pk L
5.0			Marker Delta	-15.0		D.1.1920	Marker De
šū su	a sa		MkrCF	-25.0	union de la caracteria de la ancena de encladade de		Mkr→
15 0	and a most of the state of the second state		Mkr→RefLvi More	-45 0 -55 U			Mkr→Refi
tart 0.0300 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0 #Sweep 501.3 ms (20 status		Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 G #Sweep 501.3 ms (20000 p	
, Keysight Spectrum Analyzer - Swept SA	Channe	l 20325					
RL RF 500 DC arker 1 836.013300665 MHz	O: Fast ain:Low #Atten: 30 dB	ALIGN OFF 10:43:09 PM Avg Type: Log-Pwr TRAC TYPP DE	Lian 17, 2018 E 1 2 4 4 5 4 F N N N N N				
Ref Offset 15 dB dB/div Ref 35.00 dBm	amicow.	Mkr1 836. -36.7	01 MHz NextPeak 70 dBm				
15.0			Next Pk Right				
			Next Pk Left				
5.0			Marker Delta				
50 6. ut. ilit. alut. autor to a standa bite	In work with the second data of a participation of the		Mkr-+CF				
50 President and a second and a second and a second a s			Mkr-RefLvi				
tart 0.0300 GHz	#VBW 3.0 MHz	Stop 1.0 #Sweep 501.3 ms (20					



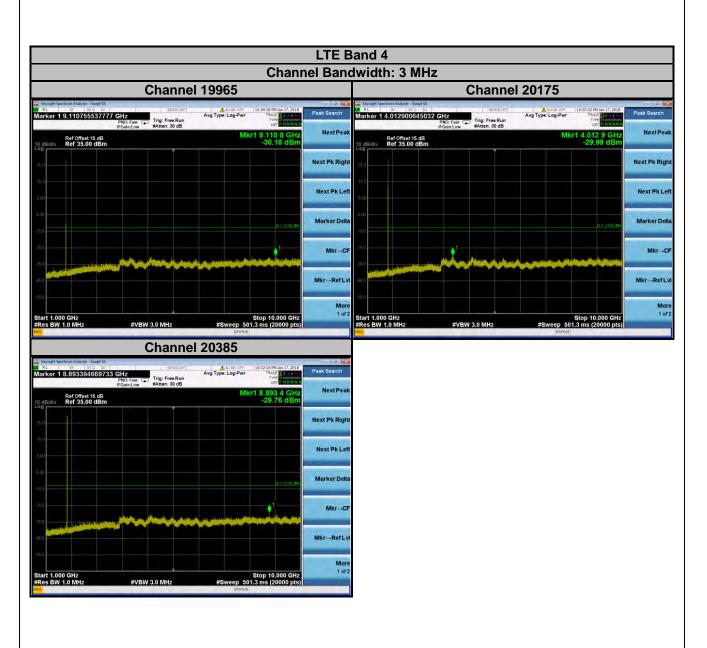
		Chanr	LTE B	and 4 width: 20 MF	47		
	Channel				Channe	20175	
Ref Offset 15 dB	est C Trig: Free Run Low #Atten: 30 dB	Avg Type: Log-Pwr Nrg Type: Log-Pwr Mr 1847.56 MHz -36.10 dBm	Pleak Search	Reyoldt Spectrum Analyzer - Swept SA RL 85 (500 DC Marker 1 900.133506675 Ref Offset 15 dB 10 dB/dly Ref 35.00 dBm	PNO: Fast Ting: Free Run IFGain:Low #Atten: 30 dB	Ачдон от 1948а) Ризан 17.2018 Avg Type: Log-Pwr теод 19 4 - т ост с иничи Mkr1 900.13 MHz -37.28 dBm -37.28 dBm	Peak Search Next Pe
o dB/div Ref 35.00 dBm			Next Pk Right	Log			Next Pk Rig
5.00			Next Pk Left	is.0 5.00			Next Pk L
5.0		0(.†.13.80 alby	Marker Delta	-15.0		0.1:13/00:459	Marker De
śó		1	Mkr→CF	-35.0		1 1	Mkr→
			Mkr→RefLvi	-450 -550			Mkr→Ref
tart 0.0300 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts)	More 1 of 2	Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts)	M(1 c
	Channel	20300					
Ref Offset 15 dB	est - Trig: Free Run Low #Atten: 30 dB	Avg Type: Log-Pwr TRACE 12 4 Trace 12 4 Tree with the tree	T CUR OCULUIT				
5 0 dB/dlv Ref 35.00 dBm		-30.32 UBIN	Next Pk Right				
			Next Pk Left				
			-				
5.00		0.3.1203-0-	Marker Delta				
50	a second de la constance de la const	CC 1990 de	Mkr⊸CF				
5.00							



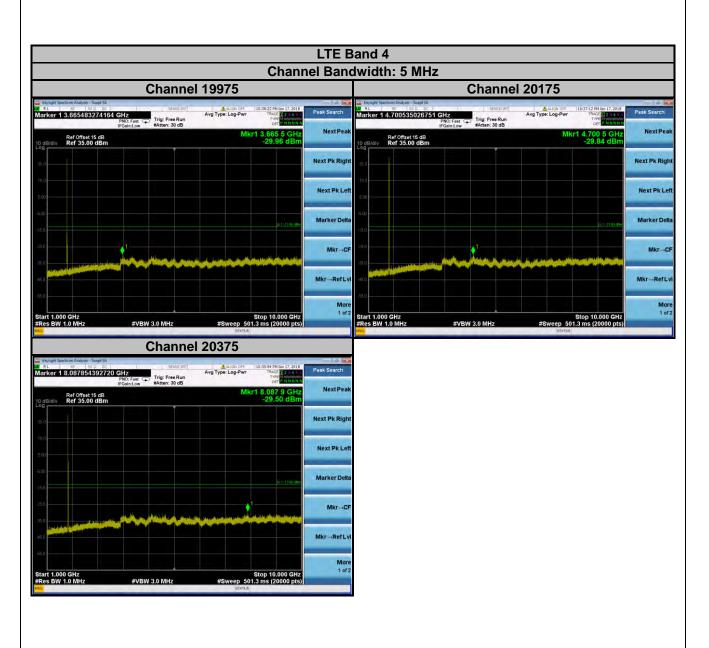
1GHz ~ 10GHz



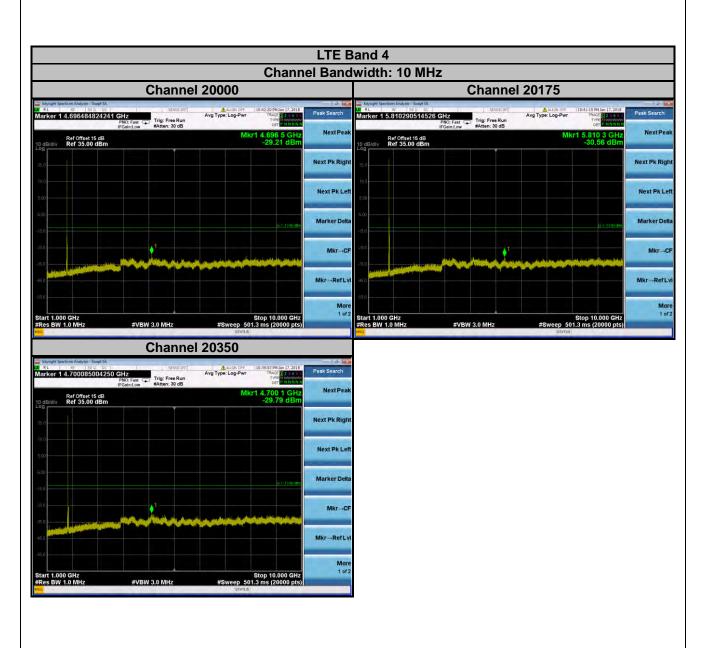




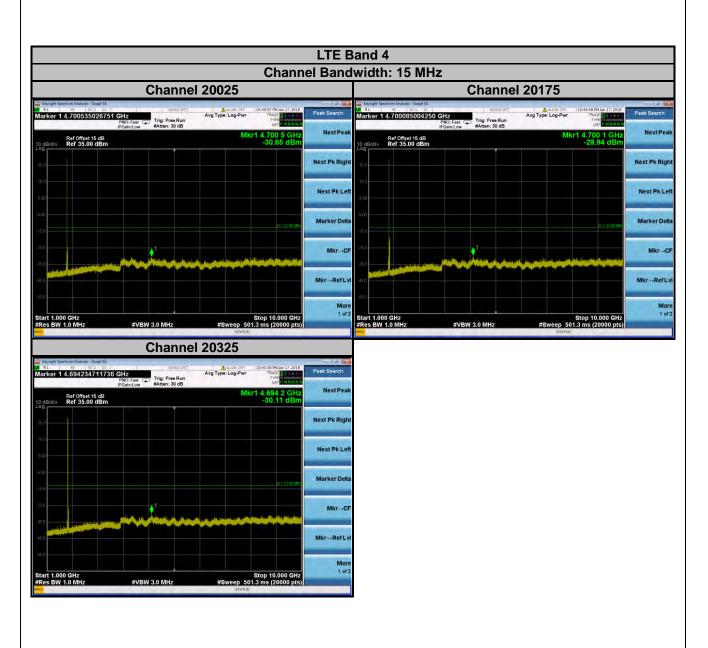




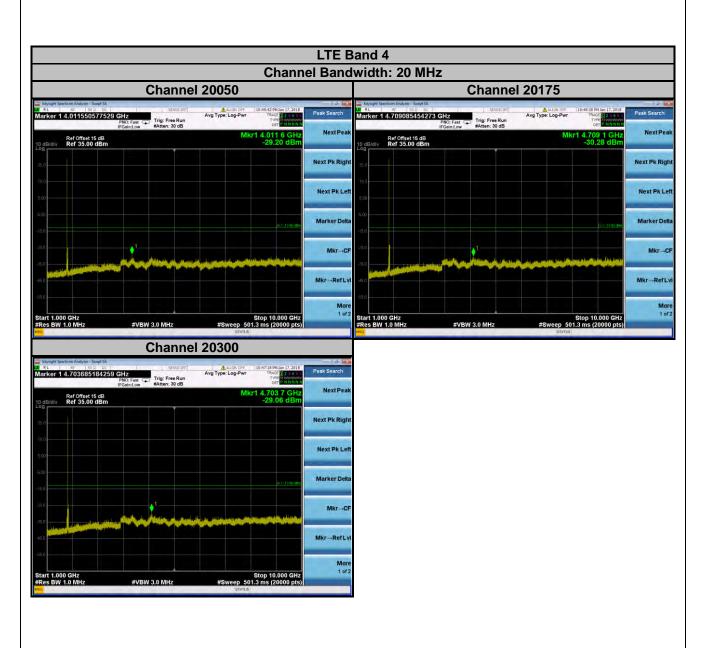






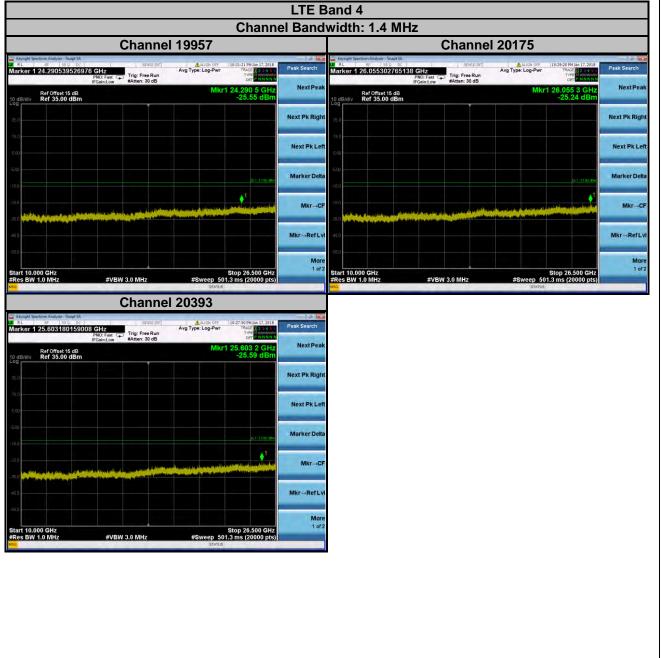






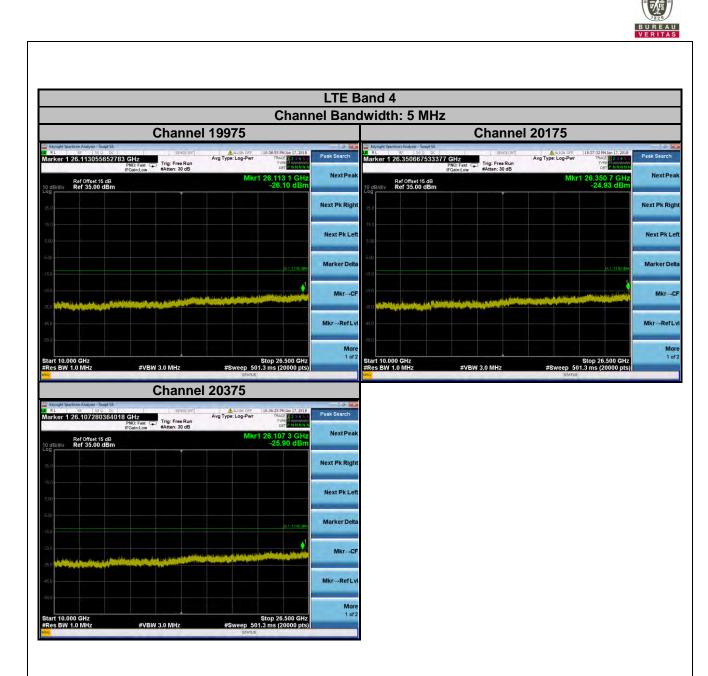


10GHz ~ 26.5GHz





		Chan	LTE B nel Band	and 4 width: 3 MHz	
Chanr	nel 19965	onam	Channe	el 20175	
Keynget Spectrum Analyze - Swigt SA AL 8F 39 0 PC PNO: Fast FGGint.ow FGGint.ow	Avg Type: Log-Pwr	10:35:02 PM Jan 17, 2018 TRACE 1 2 3 4 5 TVPD DET P NN NN N	Peak Search	A Rengelt Spectrum Analyser - Swegt 14 C RL 467 190 0 CC Marker 1 26.0503525517626 CHz PNO: Fast IfGoint.ow Atten: 30 dB	Auton OFF 10:33:32 PH Jan 17, 2018 Avg Type: Log-Pwr TRACE 11 21 4 57 1970 11 20 4 57
Ref Offset 15 dB D dB/div Ref 35.00 dBm	Mkr1	25.903 5 GHz -25.55 dBm	Next Peak	Ref Offset 15 dB 10 dB/div Ref 35.00 dBm	Mkr1 26.050 4 GHz -25.44 dBm
5.0			Next Pk Right	25.0	Next Pk
5.00			Next Pk Left	5:00	Next P
50		DC.1 - 13 80 aDm	Marker Delta	-15.0	CS 1300 ato
en an de Melter et des nomes au é détailéééetet de seux et de seux		And the other plant of the	Mkr→CF		Mit States of the second state
50			Mkr→RefLvl	-45 0	Mkr→F
tart 10.000 GHz Res BW 1.0 MHz #VBW 3.0 MHz	#Sweep 501.	Stop 26.500 GHz 3 ms (20000 pts)	More 1 of 2	Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz	Stop 26.500 GHz #Sweep 501.3 ms (20000 pts)
Chanr	el 20385			MAG .	STATUS
Keynght Spectrum Analyzer - Swept SA. SE SENSE: IT RL RF 50 S DC SENSE: IT arker 1 26:397694884744 GHz Trig: Free Rur Trig: Free Rur	Avg Type: Log-Pwr	10:32:42 PM Jan 17, 2018 TRACE 1 2 4 4 5 TVPE	Peak Search		
PNC: Fast CT Trig: Free Rut IFGeint.ow #Atten: 30 dB Buddiv Ref 35.00 dBm		26.397 7 GHz -26.09 dBm	Next Peak		
5.0			Next Pk Right		
.00			Next Pk Left		
5.0		D.1-13.00 eD*	Marker Delta		
sa na délatan na sala na dina dina kana dalam na dina di kana di	al al de la companie de la calendaria		Mkr→CF		
50			Mkr→RefLvi		
tart 10.000 GHz		Stop 26.500 GHz	More 1 of 2		





	Chann	LTE B el Band	and 4 width: 10 MHz				
Channe		.or Bunu	Channel 20175				
Rynold Spectrum Analyse Swept SA RL 8F 39 0 DC Harker 1 24.1747335856579 GHz PNO: Fast IFGein 20 dB	ALIGN OFF 10:42-41 PM Jan 17, 2018 Avg Type: Log-Pwr TRACE TRACE Upt Cog-Pwr Trace	Peak Search	Knyngik Spectrum Andyzer -Swept SA CR RL 97 500 0C Marker 1 23.870593529677 GHz Flobin.cv #Atten:	ENSE: INT ALLON OFF 118:H1:37 PM Jan 17, 2018 Avg Type: Log-Pwr TRACE 27.4 Log Bo dB corr Trive	Peak Search		
Ref Offset 15 dB 0 dB/div Ref 35.00 dBm	Mkr1 24.171 7 GHz -26.01 dBm	Next Peak	Ref Offset 15 dB 10 dB/div Ref 35.00 dBm	Mkr1 23.870 6 GHz -25.55 dBm	Next Pe		
75.0		Next Pk Right	75.0		Next Pk Rig		
.00		Next Pk Left	5.00		Next Pk L		
5.0	DC 1 : 19 70 dbs	Marker Delta	-160	Lit, ja joo daw	Marker De		
		Mkr→CF			Mkr-		
		Mkr→RefLvi	-450		Mkr→Ref		
Res BW 1.0 MHz #VBW 3.0 MHz	Stop 26.500 GHz	More 1 of 2	-55 11 Start 10.000 GHz	Stop 26.500 GHz z #Sweep 501.3 ms (20000 pts)	M d 1 o		
Res BW 1.0 MHz #VBW 3.0 MHz	#Sweep 501.3 ms (20000 pts)		#Res BW 1.0 MHz #VBW 3.0 MH;	grarus	_		
Keysight Spectrum Analyzer - Swept SA RL RF SR DC SENSE:INT	A 1 IGN OFF 10-40-20 PM Jan 17, 2018						
larker 1 26.408420421021 GHz PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr TRACE TYPE	Peak Search Next Peak					
Ref Offset 15 dB 0 dB/div Ref 35.00 dBm	Mkr1 26.408 4 GHz -25.19 dBm	HEALT CAR					
5.0		Next Pk Right					
5.00		Next Pk Left					
500	0.1:13.00 dbs	Marker Delta					
		Mkr→CF					
		Mkr→RefLvl					
tart 10.000 GHz	Stop 26.500 GHz	More 1 of 2					
Res BW 1.0 MHz #VBW 3.0 MHz	#Sweep 501.3 ms (20000 pts)						



	Chann	LTE B	and 4 width: 15 MHz	
Channe			Channe	l 20175
Revealt Spectrum Analyzer Swept SA RL 85 350 8C Marker 1 24,049627481374 GHz PWC res Trig: Free Run From Low	ALIGN OFF 18:46:16 PM Jan 17, 2018 Avg Type: Log-Pwr TRACE TYPE Det PM/NAM	Peak Search	Keynight Spectrum Analyzer - Swept SA Sandcittel Sandcittel Wit Keynight Spectrum Analyzer - Swept SA Sandcittel Sandcittel Marker: 1 26:4331716595983 GHz PRO:Fast Galaction Trig: Free Run FGeint-103 dB Trig: Free Run	Avg Type: Log-Pwr TACC 12 4 509 PM Ian 17, 2018 Peak Search Der Fickens N
Ref Offset 15 dB	Mkr1 24.049 6 GHz -25.79 dBm	NextPeak	Ref Offset 15 dB 10 dB/div Ref 35,00 dBm	Mkr1 26.433 2 GHz -25.91 dBm
50 50		Next Pk Right	5.0	Next Pk Rig
5.00		Next Pk Left	5.00	Next Pk Li
5.0	Q.1.1230309	Marker Delta	-150	X3.1202.de Marker De
		Mkr→CF		Mkr-4
150		Mkr→RefLvi More	460	Mkr→Ref
tart 10.000 GHz Res BW 1.0 MHz #VBW 3.0 MHz	Stop 26.500 GHz #Sweep 501.3 ms (20000 pts)	1 of 2	Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz	Stop 26.500 GHz 10 #Sweep 501.3 ms (20000 pts)
Channe	20325			
Regist Spectan Andrar - Swept SA RL 87 So D D C Barker 1 24.3865244312216 GHz PNC: Fast IFGain tow Atten: 30 dB	ALIGN OFF 18:44:84 PM Ian 17, 2018 Avg Type: Log-Pwr TRACE 12 14 10 TYPE Det Physics 11	Peak Search		
Ref Offset 15 dB 0 dB/dlv Ref 35.00 dBm	Mkr1 24.386 2 GHz -25.68 dBm	Next Peak		
5.0		Next Pk Right		
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5.0	рст1320-еве 1	Marker Delta		
		Mkr→CF Mkr→RefLvl		
8d		More		
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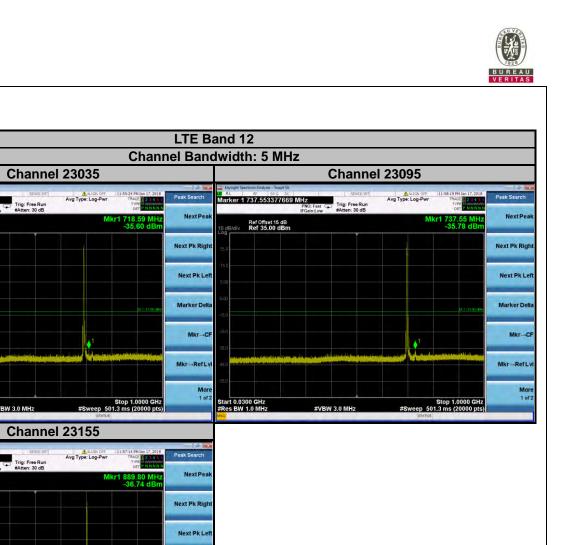
	Chanr		Band 4 dwidth: 20 MHz
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Reyards Spectrum Analyses Sweet SA RL 97 500 DC arker 1 25.481070053703 GHz PNO: Fast FrGinl.ow Atten: 30 dB	Aug Type: Log-Pwr TRACE 12 243	Peak Search	Keynel tektom Andres Sungt 1A. Strict Int
Ref Offset 15 dB dB/div Ref 35.00 dBm	Mkr1 25.481 1 GHz -26.42 dBm	Next Peak	k Mkr1 25.004 2 GHz 10 dBioly Ref 35.00 dBm -25.92 dBm
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		Mkr→CF	F 250 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
60		Mkr→RefLvi	vi 450 Mkr⊸Re
tart 10.000 GHz Res BW 1.0 MHz #VBW 3.0 MHz	Stop 26.500 GHz #Sweep 501.3 ms (20000 pts)	More 1 of 2	
Channe	1 20300		
Revealed Spectrum Analyzer Swept SA RL RF 150 0 CC arker 1 26.4059452972655 GHz PNO: Fast IFGein.dox IFGein.dox arket: 30 dB	ALIGN OFF 18:47:40 PM Ian 17, 2018 Avg Type: Log-Pwr TRACE TYPE TYPE	Peak Search	i
IFGoint.ow #Atten: 30 dB Ref Offset 15 dB g dB/dlv Ref 35.00 dBm	Mkr1 26.405 9 GHz -26.20 dBm	Next Peak	k de la constante de
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60		More	e







			Chan	LTE Band	and 12 Iwidth: 3 N	IHz			
Channel 23025				Channel 23095					
Reyright Spectrum Analyzer - Swapt SA RL 86 59 0 DC Iarker 1 718.443422171 MHz PNO: Fast IFGainLow Ref Offset 15 dB	SENSE:INT Trig: Free Run #Atten: 30 dB	Augn off Avg Type: Log-Pwr	12:08:22 AM Ian 18, 2018 TRACE 1 2 4 4 TYPE DET P. N.N.N.N.N. kr1 718.44 MHz	Peak Search Next Peak	keysight Spectrum Analyzer - Swe R RL RF 580 Marker 1 737.892894 Bef Offset 15	IG45 MHz PNO: Fast IFGain:Low #Atten: 30	Avg Type: Log-Pwr Run dB	Ikr1 737.89 MHz	k Search Next Pe
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	Channel 23165								
Keysglet Spectrum Analyzer - Swept SA RL RF Se D DC arker 1 983,606180309 MHz PNO: Fast iFGain:Low	SENSE:INT	ALIGN OFF Avg Type: Log-Pwr	12:06:21 AN Jan 18, 2018 TRACE 1 2 4 4 TYPE DET P NNNN	Peak Search					
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50 60				Mkr→RefLvi More					
tart 0.0300 GHz Res BW 1.0 MHz #V	BW 3.0 MHz		Stop 1.0000 GHz 1.3 ms (20000 pts)						



er 1 718.588929446 MHz

Ref Offset 15 dB Ref 35.00 dBm

tart 0.0300 GHz Res BW 1.0 MHz

Start 0.0300 GHz #Res BW 1.0 MHz

#VBW 3.0 MHz

r 1 889.802490125 MHz

Ref Offset 15 dB Ref 35.00 dBm

Marker Del

¢

Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts) Mkr-+C

Mkr-RefL

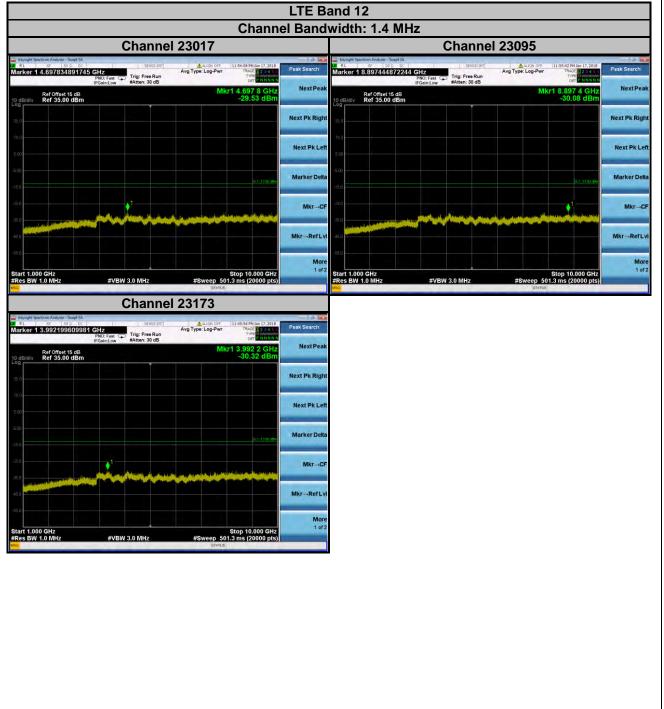
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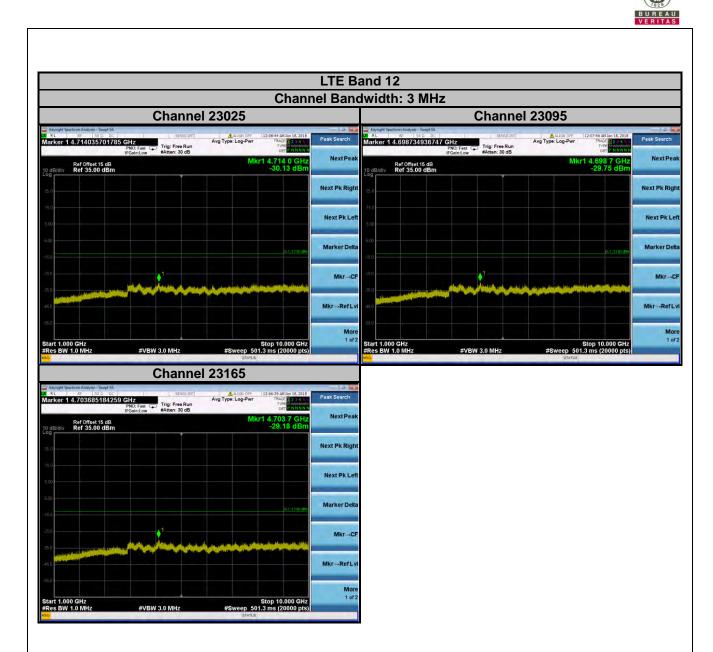


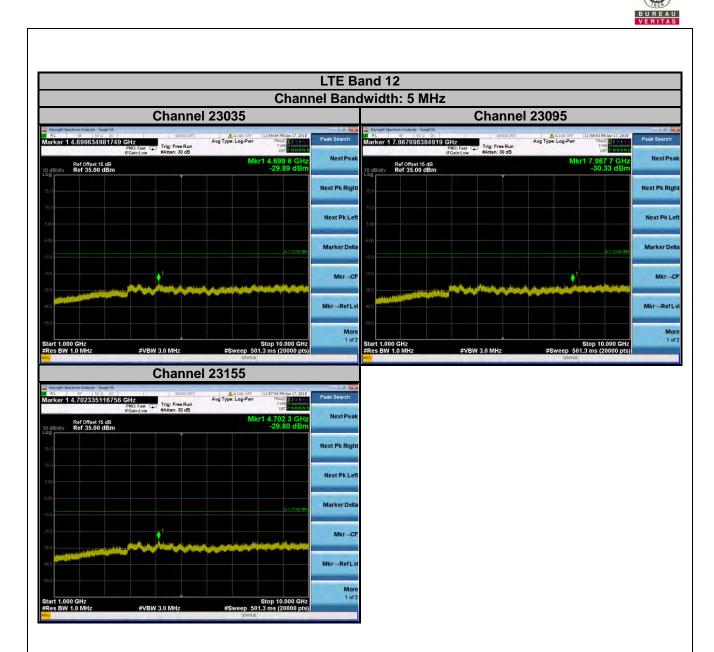
	Chan		Band 12 dwidth: 10 MHz			
Channe		Channel 23095				
keynelt Spentern Andrew Swept SA AL SF 1950 DC Aarker 1 735.661783009 MHz PRO: Fast PRO: Fast Free Run Artice: 30 dB Proint ow Proint Andrew Source States 10, 2019 Aug Type: Log-Pwr Track 100 CF Track			Marker 1 740.463523176 IMI/z ING: for soil of the soil			
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ŝó		Mkr→CF				
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arker 1 738:377918896 MHz. PNO: Feat IFGainLow Trig: Free Run IFGainLow #Atten: 30 dB	Avg Type: Log-Pwr Mkg Type: Log-Pwr Mkg T 738.38 MH -36.45 dBn		ak			
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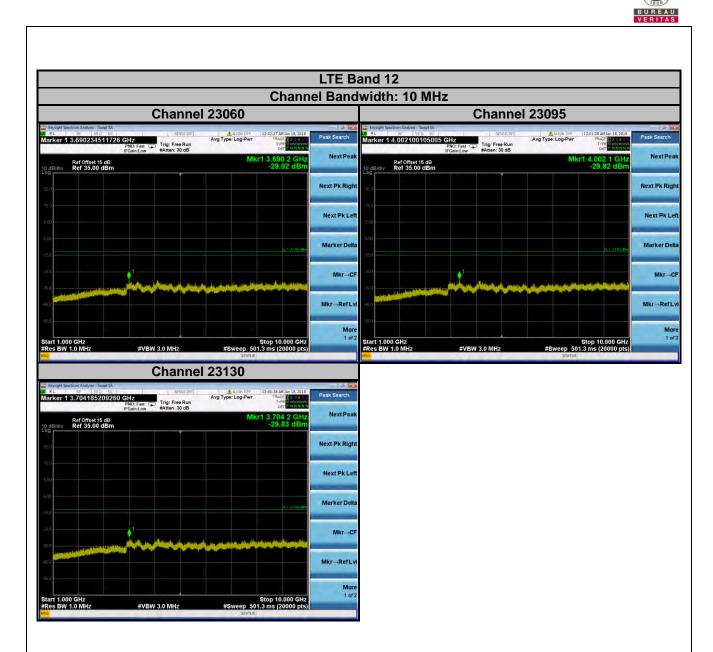


1GHz ~ 10GHz

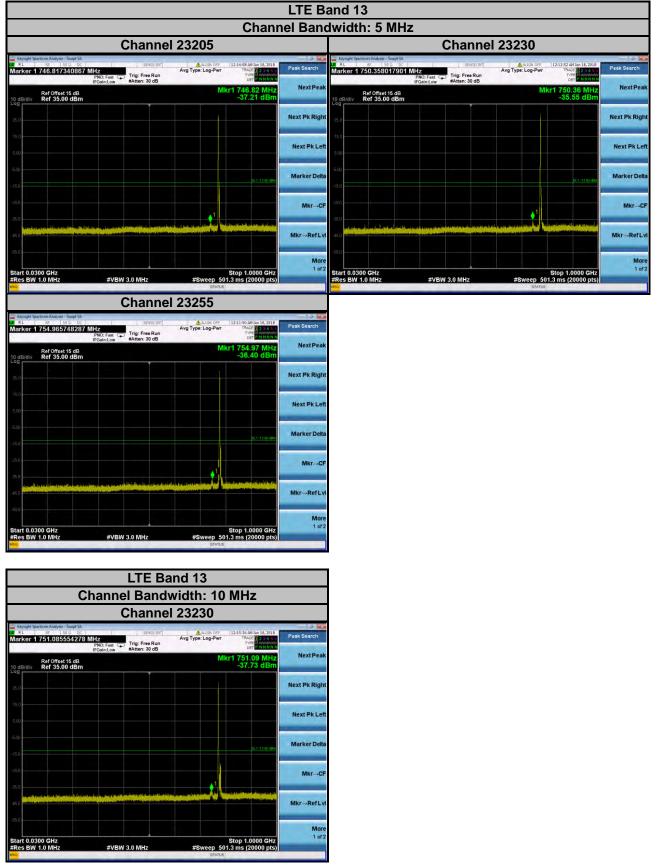






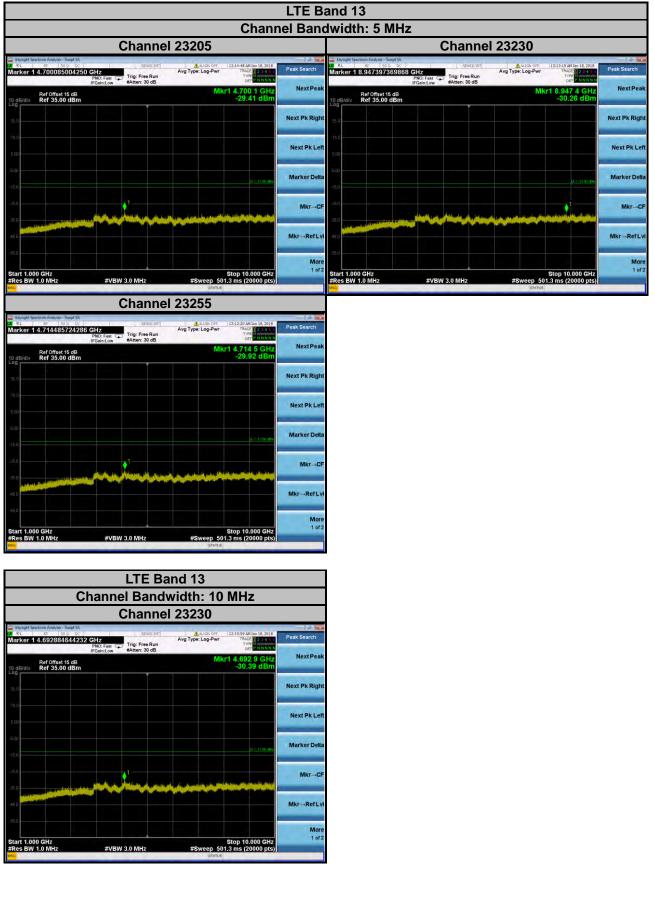




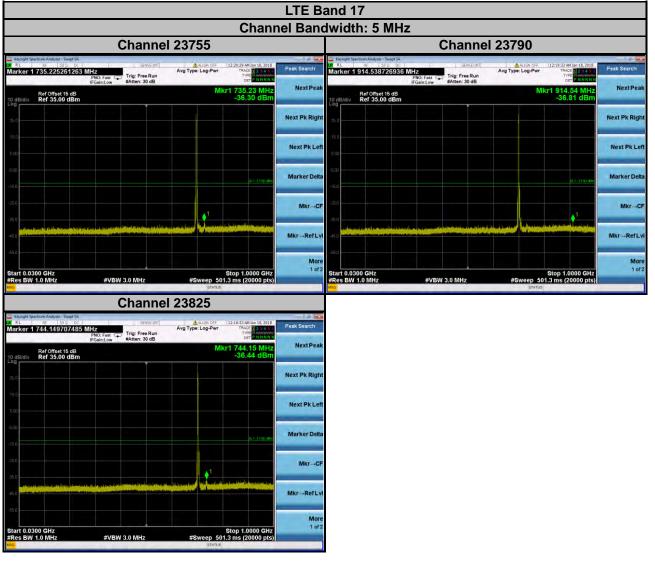




 $1GHz \sim 10GHz$





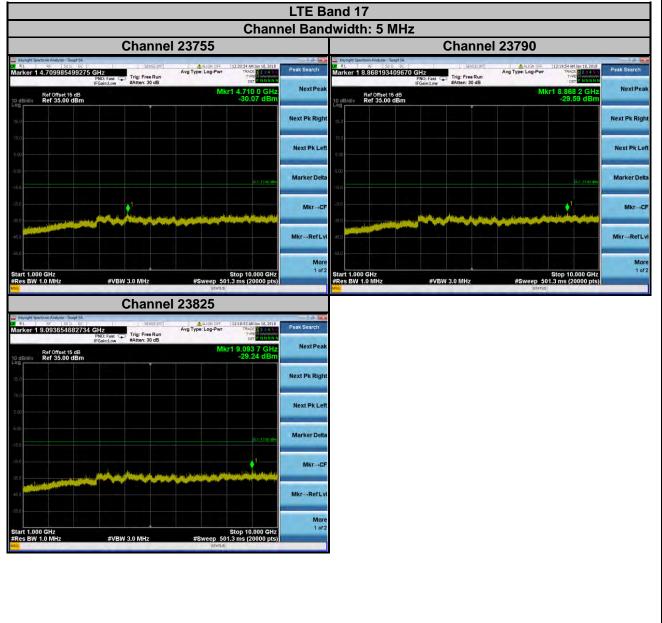


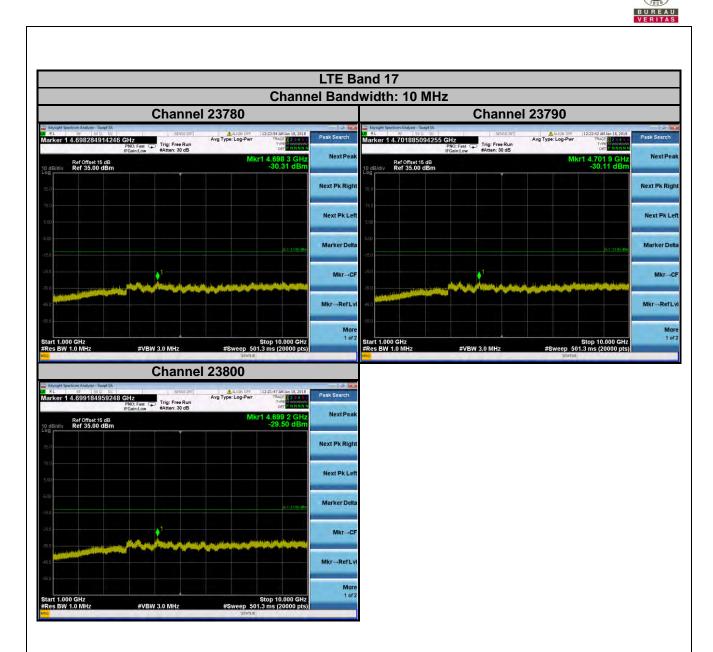


		LTE Channel Bar	Band 17 dwidth: 10 M	IHz			
C	onanner Bar		Channel 23790				
IFGain:Low Ref Offset 15 dB	SENSE:INT Auton OFF Avg Type: Log-Pwr Trig: Free Run #Atten: 30 dB	Akr1 739.25 MHz	Ref Offset 15 dE	20 MH2 PNO: Fast Trig: Free Run IFGein:Low #Atten: 30 dB	Augn off 12:22:19 AN Jan 18, 2018 Avg Type: Log-Pwr Trace 12:21 Ver Trace 12:21 Wkr1 740:37 MHz	Peak Search	
5.0 dB/div Ref 35.00 dBm		-37.83 dBm Next Pk Ri	Log	m	-37.29 dBm	Next Pk Rig	
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00 .0		D.S. 19 Auguston Marker D	-5.00		26.1.4380 dby	Marker De	
50 		Mkr-	CF -250			Mkr-4	
	any de la constante de la const	Mkr→Ref	VI 450			Mkr→Ref	
art 0.0300 GHz Res BW 1.0 MHz #VBW 3	1.0 MHz #Sweep 5	M Stop 1.0000 GHz 101.3 ms (20000 pts)		#VBW 3.0 MHz	Stop 1.0000 GHz #Sweep 501.3 ms (20000 pts	M-1	
C	15	Mag .		STATUS			
Keysight Spectrum Analyzer - Swept SA RL RF S0 0 DC arker 1 742.500625031 MHz IFGoint.ow IFGoint.ow	Avg Type: Log-Pwi	12:21:24 AM Jan 18, 2018 TRACE TYPE	*				
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ιά .σ		Mkr-	CF				
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6,ü							



1GHz ~ 10GHz







4.7 Radiated Emission Measurement

- 4.7.1 Limits of Radiated Emission Measurement
- a. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission is equal to -13 dBm.
- b. For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm.

4.7.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- c. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power 2.15 dBi.

Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

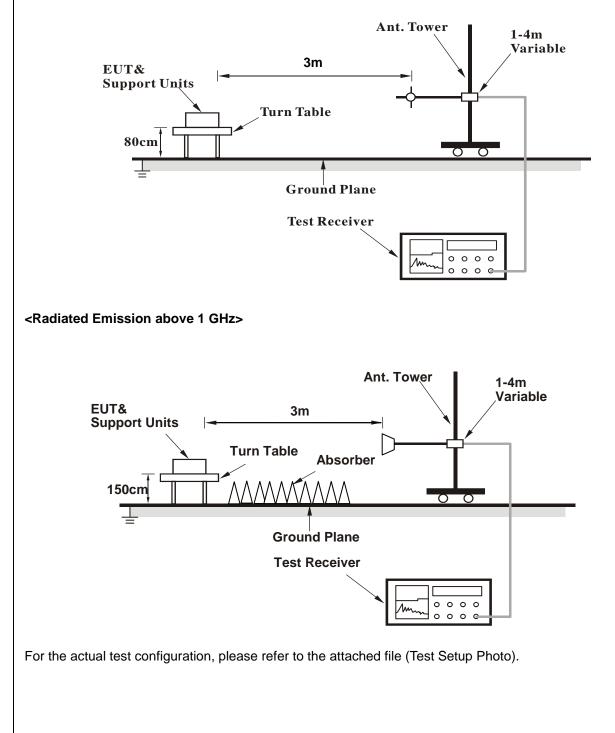
4.7.3 Deviation from Test Standard

No deviation.



4.7.4 Test Setup

<Radiated Emission below or equal 1 GHz>

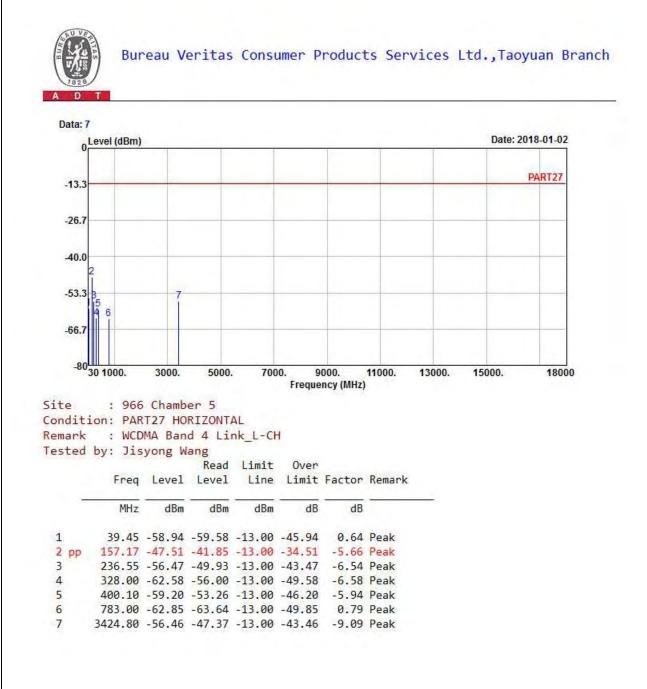




4.7.5 Test Results

WCDMA:

Low Channel







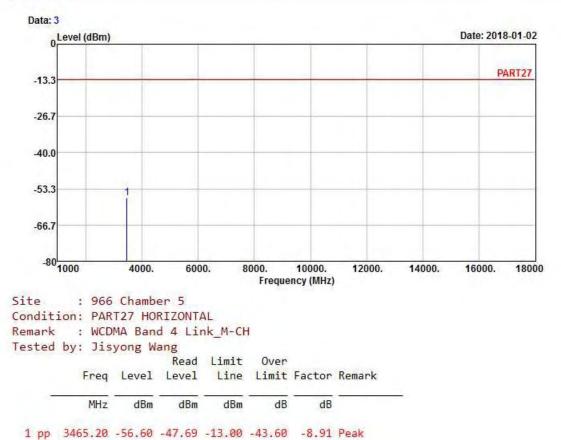
Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch





Middle Channel

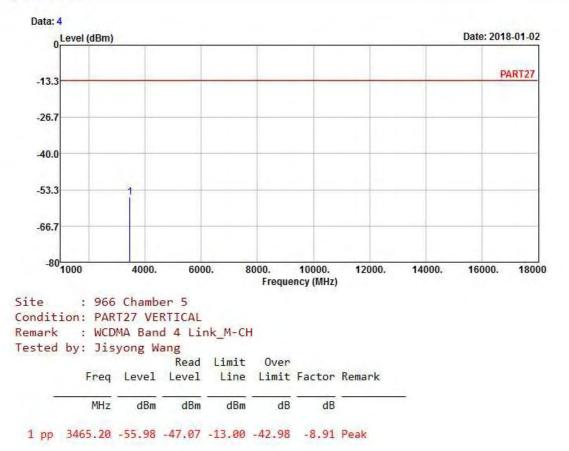








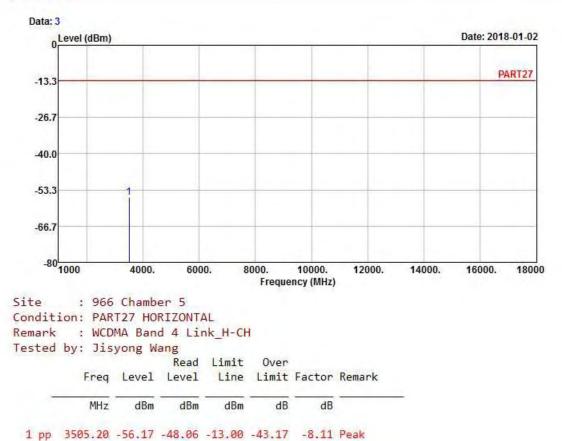
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High Channel

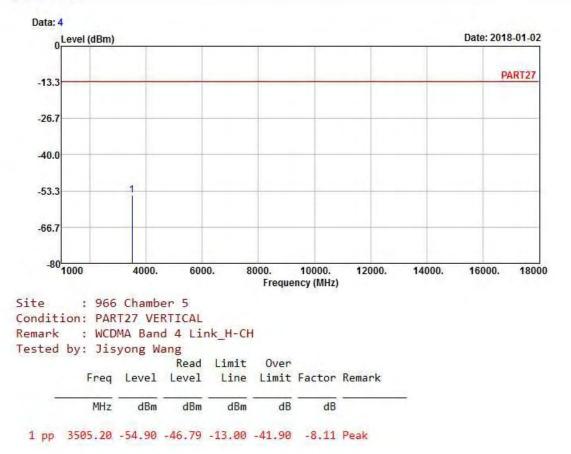








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LTE Band 4 Channel Bandwidth: 20 MHz / QPSK Low Channel

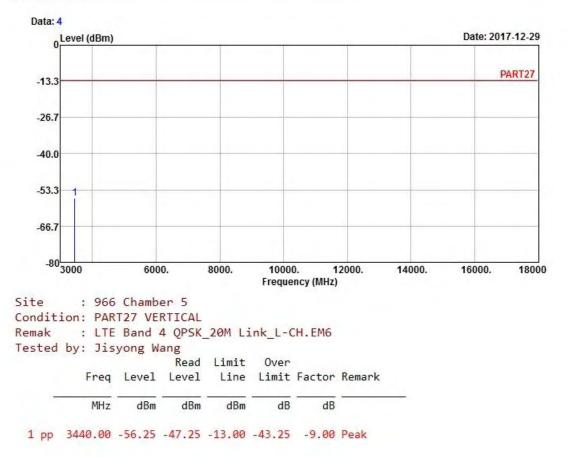


1 pp 3440.00 -55.53 -46.53 -13.00 -42.53 -9.00 Peak





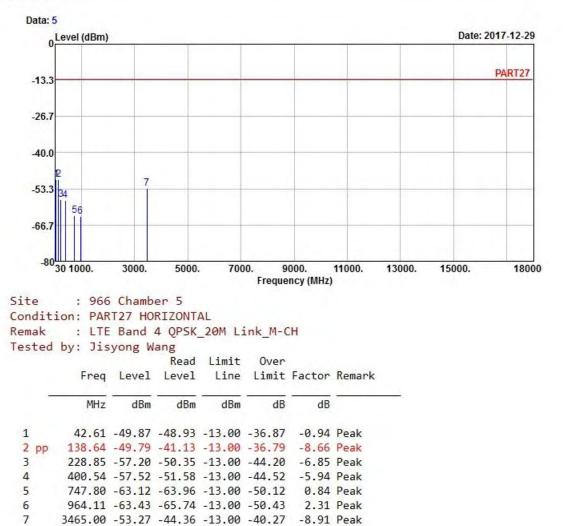
Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch





Middle Channel

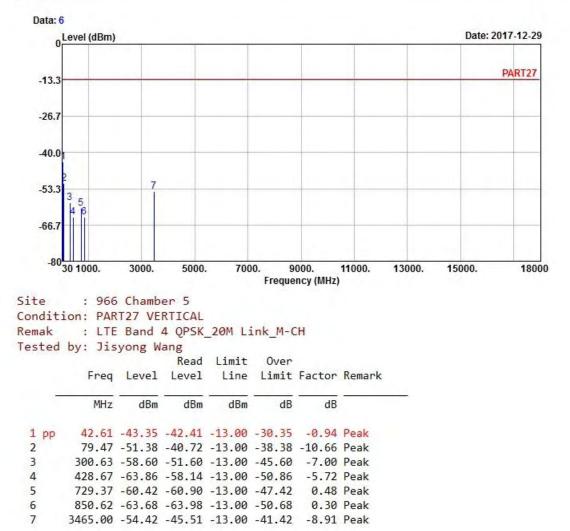








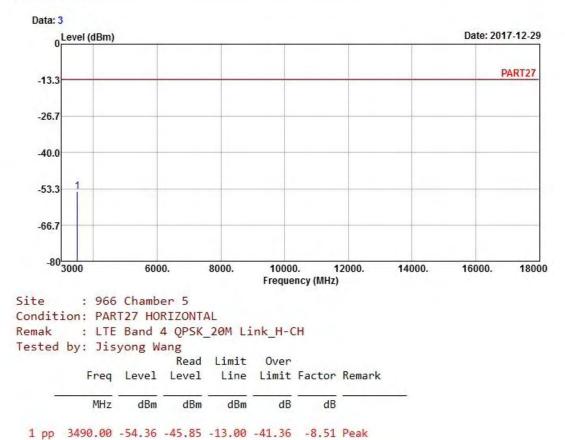
Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch





High Channel







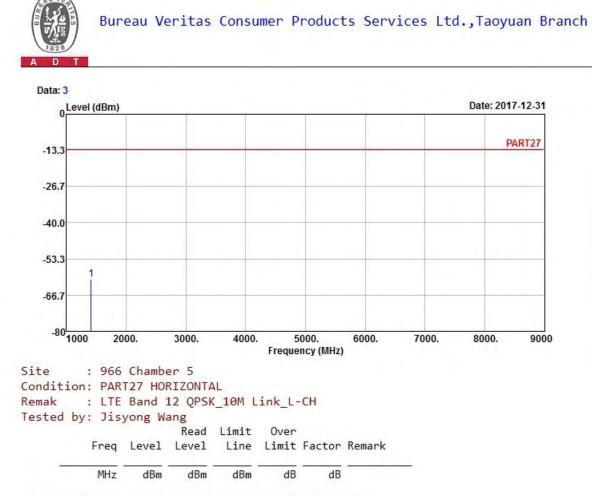


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LTE Band 12 Channel Bandwidth: 10 MHz / QPSK Low Channel

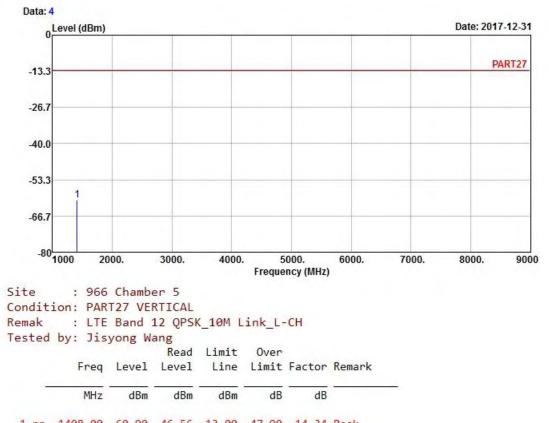


1 pp 1408.00 -60.67 -46.33 -13.00 -47.67 -14.34 Peak





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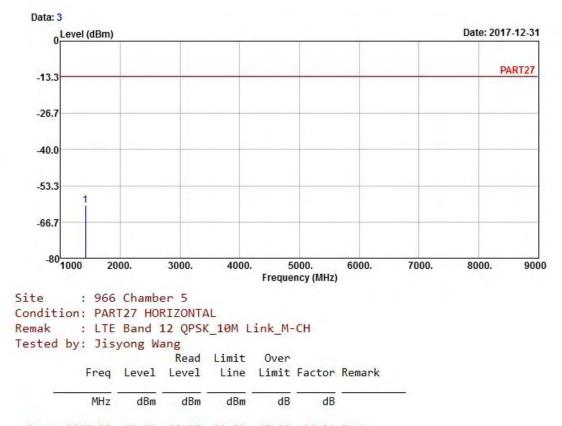
1 pp 1408.00 -60.90 -46.56 -13.00 -47.90 -14.34 Peak



Middle Channel



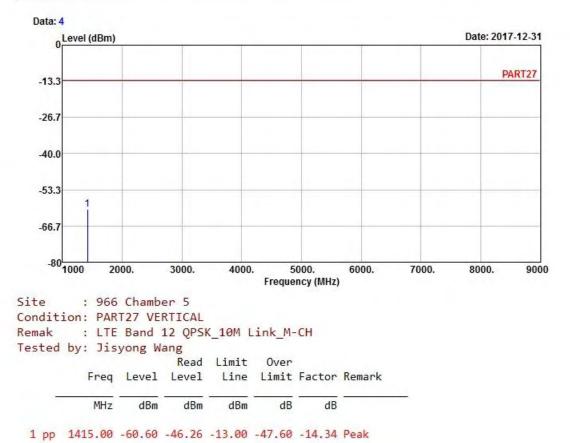
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1 pp 1415.00 -60.61 -46.27 -13.00 -47.61 -14.34 Peak



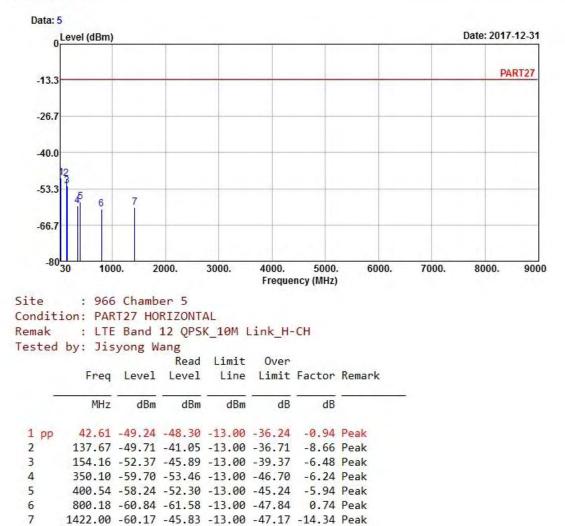






High Channel

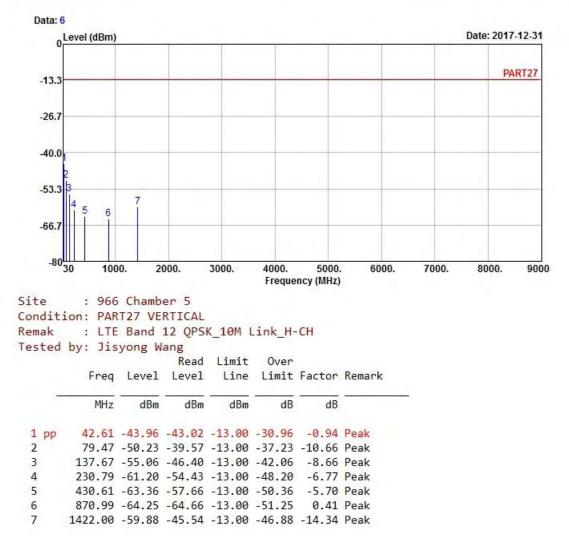






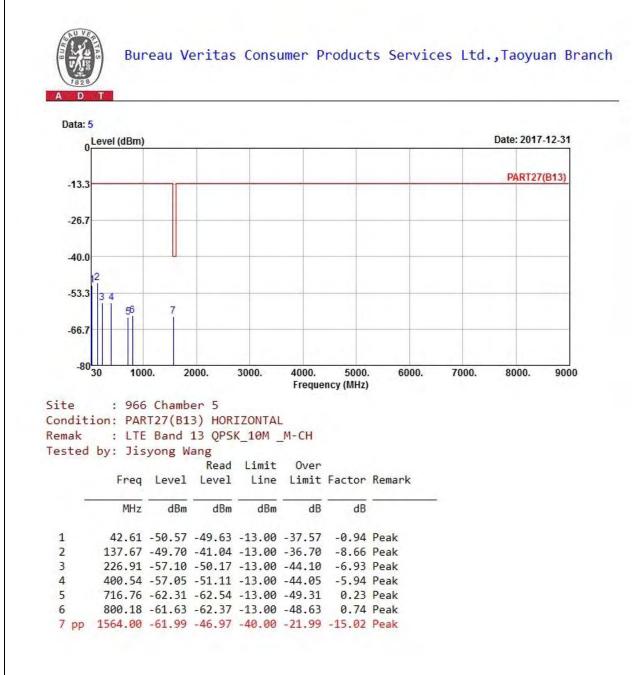


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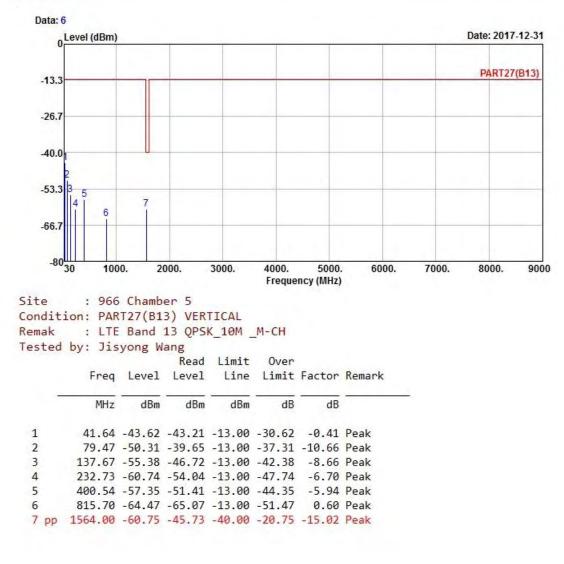
LTE Band 13 Channel Bandwidth: 10 MHz / QPSK





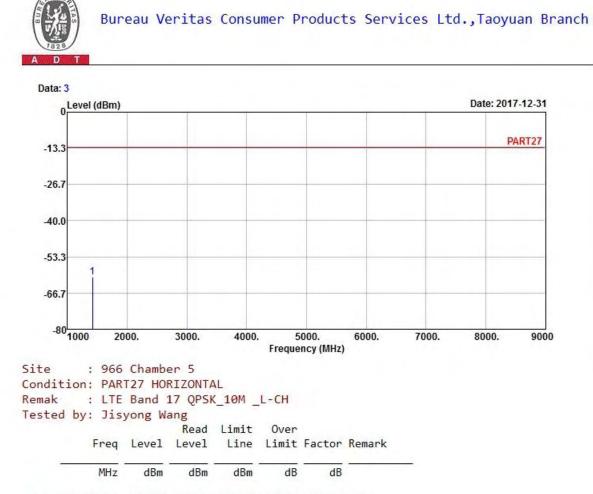


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LTE Band 17 Channel Bandwidth: 10 MHz / QPSK Low Channel

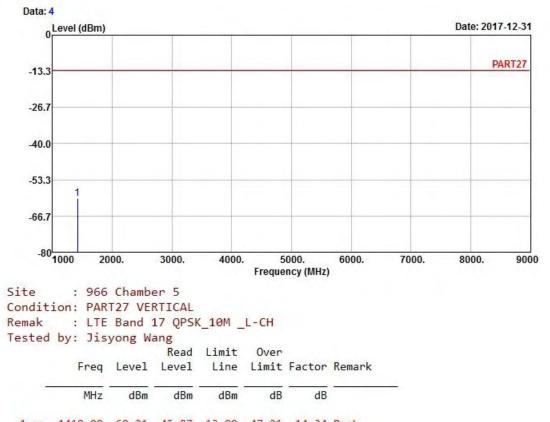


1 pp 1418.00 -60.84 -46.50 -13.00 -47.84 -14.34 Peak





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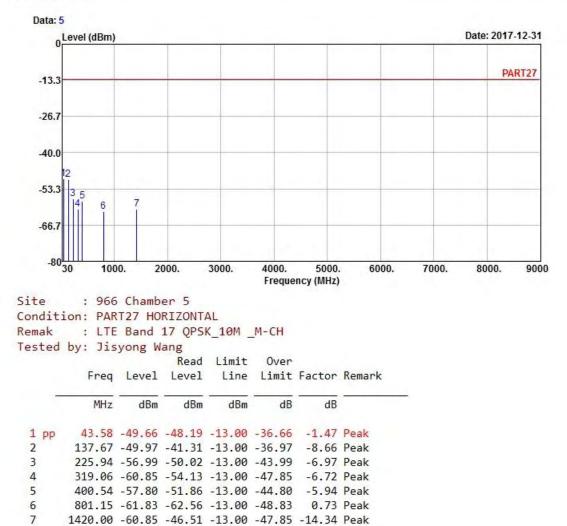


1 pp 1418.00 -60.21 -45.87 -13.00 -47.21 -14.34 Peak



Middle Channel

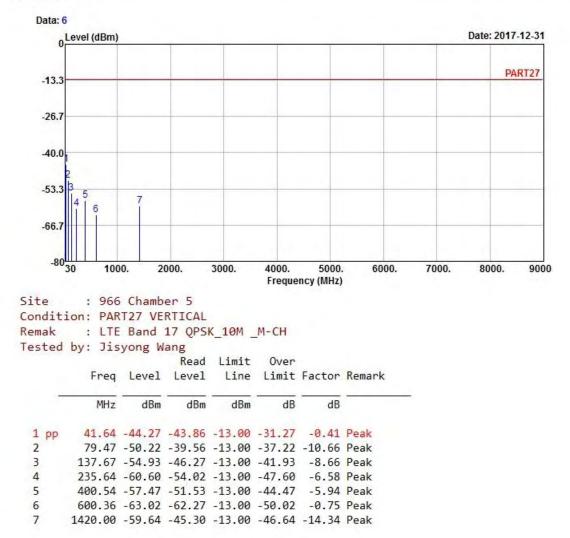








Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

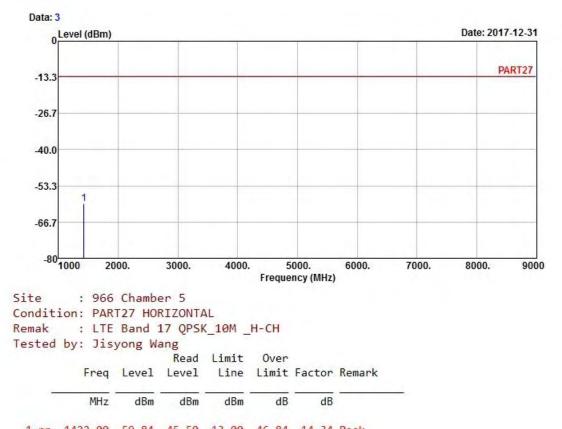




High Channel



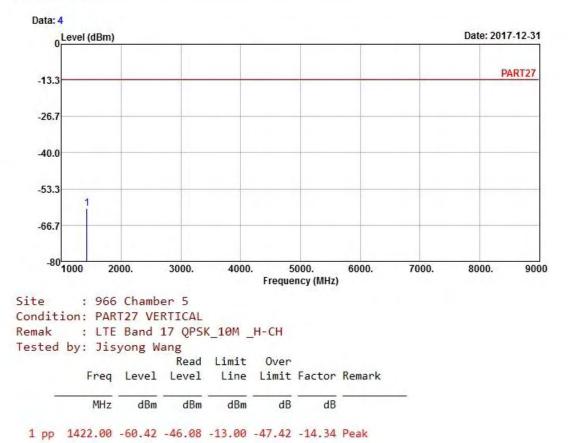
Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch



1 pp 1422.00 -59.84 -45.50 -13.00 -46.84 -14.34 Peak









5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).



Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab Tel: 886-2-26052180 Fax: 886-2-26051924 Hsin Chu EMC/RF/Telecom Lab Tel: 886-3-6668565 Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Tel: 886-3-3183232 Fax: 886-3-3270892

Email: <u>service.adt@tw.bureauveritas.com</u> Web Site: <u>www.bureauveritas-adt.com</u>

The address and road map of all our labs can be found in our web site also.

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