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Band17_10MHz_QPSK_50_0_HighCH23800-711



Band17_10MHz_QPSK_1_49_HighCH23800-711



Band17_10MHz_QPSK_50_0_LowCH23780-709



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10. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

10.1. Standard Applicable

According to FCC §2.1053,

FCC §22.917(a), §24.238(a), §27.53(g)(h), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

FCC §27.53 (m) (4) shall not be less than 55 +10log(mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber **Equipment**

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)^{\text{Note}}$
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)^{\text{Note}}$
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 for the permitted frequency ranges for various equipment types.

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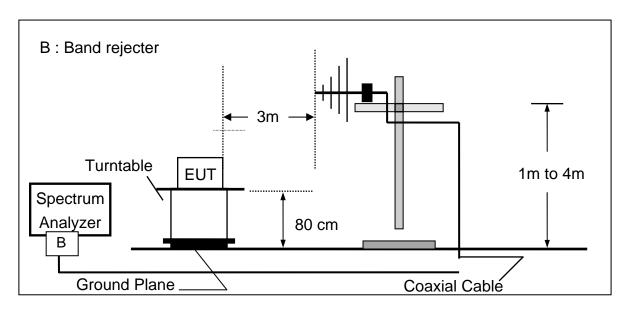
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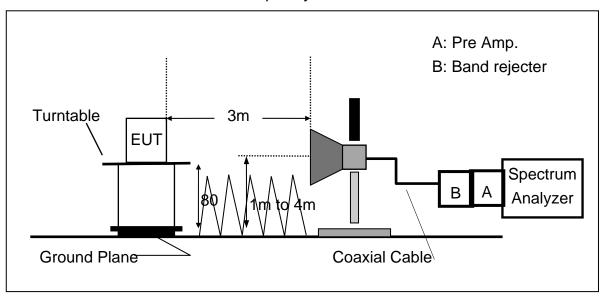
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10.2. EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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10.3. Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note: "F": denotes Fundamental Frequency.; "H": denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---": denotes Noise Floor.

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10.4. Measurement Equipment Used:

	10.4. Med3drement Equipment 03ed.											
ERP, E	EIRP MEASUREM	ENT EQUIPME	NT List 966	Chamber								
EQUIPMENT TYPE	MFR	MODEL	SERIAL	LAST CAL.	CAL DUE.							
		NUMBER	NUMBER									
EMI Test Receiver	R&S	ESCI7	100760	05/11/2017	05/10/2018							
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/25/2017	04/24/2018							
Loop Antenna	ETS-Lindgren	6502	148045	09/20/2016	09/19/2017							
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017							
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/01/2016	07/31/2017							
Pre-Amplifier	Agilent	8447D	2944A07676	01/05/2017	01/04/2018							
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/05/2017	01/04/2018							
Turn Table	n Table HD		N/A	N.C.R	N.C.R							
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R							
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R							
Low Loss Cable	Huber Suhner	966_RX	9	01/05/2017	01/04/2018							
3m Site NSA	SGS	966 chamber	N/A	07/01/2017	06/30/2018							
Low Loss Cable	Huber Suhner	966 TX	1	01/05/2017	01/04/2018							
Horn Antenna	Schwarzbeck	BBHA9170	184	12/12/2016	12/11/2017							
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/05/2017	01/04/2018							
Radio Communication Analyzer	R&S	CMU200	102189	02/10/2017	02/09/2018							
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018							

Note: The measurement was taken place with the long duration of the time, and additional equipment list as shown above indicate those equipment of which has been subject to undertake the calibration in intermediate period of time of the measurement.

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber									
EQUIPMENT TYPE MFR		MODEL	SERIAL	LAST CAL.	CAL DUE.				
		NUMBER	NUMBER						
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/04/2017	08/03/2018				

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10.5. Measurement Result:

Radiated Spurious Emission Measurement Result: GSM 850 Mode (The Worst Case)

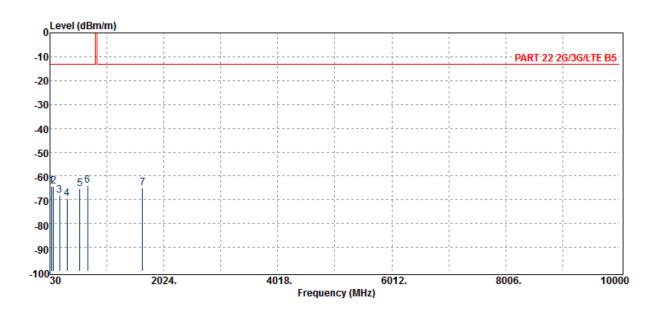
:GPRS 850 Temp./Humi. :21 deg C/62 RH **Operation Band**

Fundamental Frequen-:824.2 MHz Engineer :Tin

Operation Mode :Tx CH LOW

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-62.36	-53.27	-8.03	-1.06	-13	-49.36
91.11	S	-62.17	-62.54	1.58	-1.21	-13	-49.17
202.66	S	-65.85	-69.57	5.37	-1.65	-13	-52.85
332.64	S	-67.35	-71.37	5.93	-1.91	-13	-54.35
553.80	S	-63.25	-66.22	5.71	-2.74	-13	-50.25
691.54	S	-62.01	-64.42	5.24	-2.83	-13	-49.01
1648.40	Н	-62.95	-67.99	9.26	-4.22	-13	-49.95

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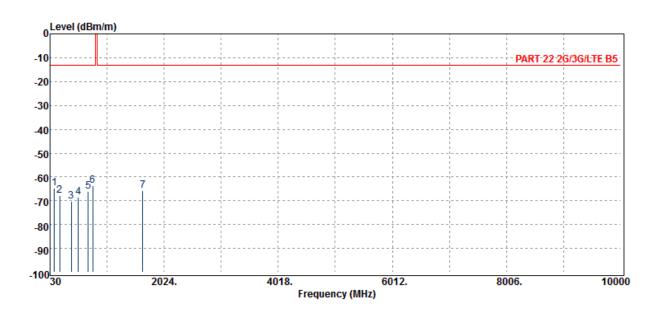
Operation Band :GPRS 850 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:824.2 MHz :Tin Engineer

:Tx CH LOW **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-62.62	-61.46	0.11	-1.27	-13	-49.62
199.75	S	-65.69	-69.30	5.24	-1.63	-13	-52.69
403.45	S	-68.10	-71.66	5.96	-2.40	-13	-55.10
527.61	S	-66.46	-69.85	5.86	-2.47	-13	-53.46
694.45	S	-63.85	-66.21	5.24	-2.88	-13	-50.85
773.99	S	-61.36	-63.84	5.41	-2.93	-13	-48.36
1648.40	Н	-63.49	-68.53	9.26	-4.22	-13	-50.49



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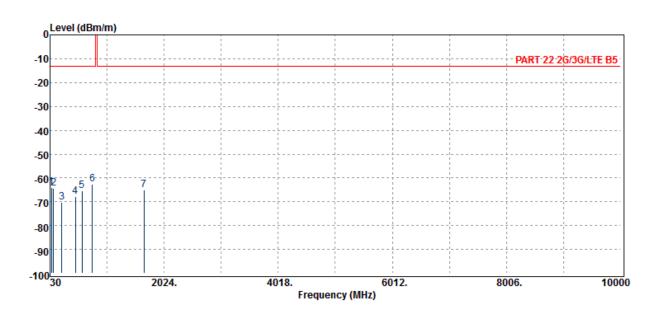
Operation Band :GPRS 850 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:836.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-61.71	-52.62	-8.03	-1.06	-13	-48.71
92.08	S	-62.30	-62.54	1.46	-1.22	-13	-49.30
238.55	S	-68.13	-71.80	5.41	-1.74	-13	-55.13
473.29	S	-65.78	-69.45	5.90	-2.23	-13	-52.78
587.75	S	-63.37	-66.05	5.47	-2.79	-13	-50.37
772.05	S	-60.45	-62.91	5.40	-2.94	-13	-47.45
1673.20	Н	-62.91	-67.97	9.35	-4.29	-13	-49.91



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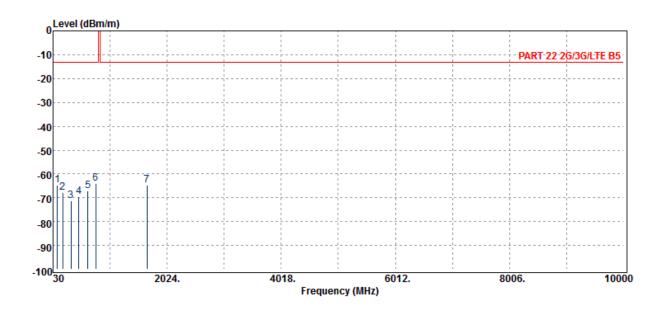
Operation Band :GPRS 850 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:836.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-62.69	-61.53	0.11	-1.27	-13	-49.69
202.66	S	-65.68	-69.40	5.37	-1.65	-13	-52.68
343.31	S	-69.10	-73.09	5.98	-1.99	-13	-56.10
482.99	S	-67.43	-71.12	5.94	-2.25	-13	-54.43
641.10	S	-65.05	-67.93	5.31	-2.43	-13	-52.05
773.99	S	-61.86	-64.34	5.41	-2.93	-13	-48.86
1673.20	Н	-62.62	-67.68	9.35	-4.29	-13	-49.62



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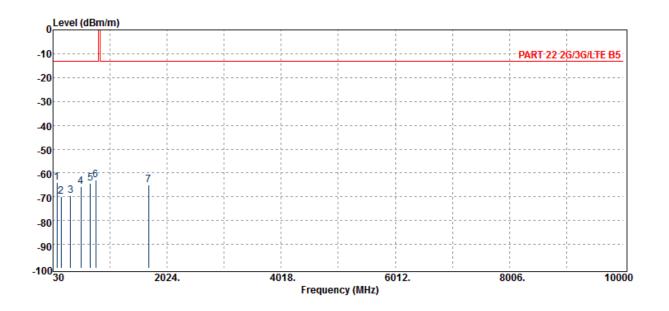
Operation Band :GPRS 850 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:848.8 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
94.99	S	-62.02	-61.90	1.11	-1.23	-13	-49.02
172.59	S	-67.75	-67.93	1.71	-1.53	-13	-54.75
333.61	S	-67.45	-71.47	5.94	-1.92	-13	-54.45
516.94	S	-63.65	-67.19	5.91	-2.37	-13	-50.65
683.78	S	-62.15	-64.71	5.25	-2.69	-13	-49.15
775.93	S	-60.93	-63.43	5.42	-2.92	-13	-47.93
1697.60	Н	-62.81	-67.93	9.43	-4.31	-13	-49.81



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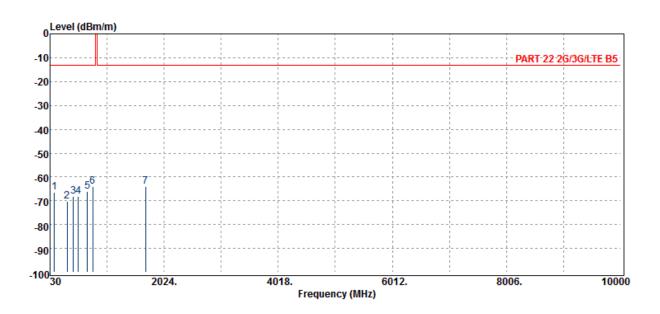
Operation Band :GPRS 850 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:848.8 MHz Engineer :Tin

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
103.72	S	-64.39	-63.33	0.20	-1.26	-13	-51.39
327.79	S	-68.13	-72.12	5.91	-1.92	-13	-55.13
435.46	S	-66.06	-69.67	5.84	-2.23	-13	-53.06
526.64	S	-66.03	-69.43	5.86	-2.46	-13	-53.03
681.84	S	-64.04	-66.64	5.25	-2.65	-13	-51.04
773.99	S	-61.71	-64.19	5.41	-2.93	-13	-48.71
1697.60	Н	-62.02	-67.14	9.43	-4.31	-13	-49.02



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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode (The Worst Case)

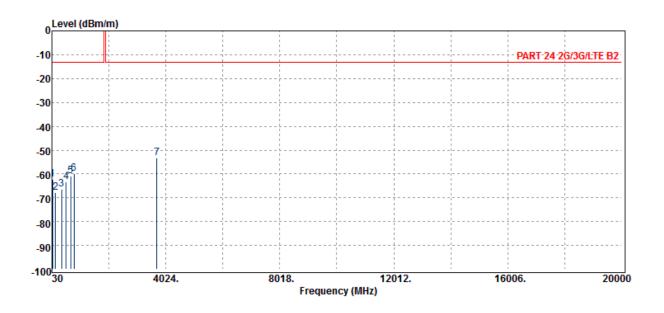
Operation Band Temp./Humi. :21 deg_C / 62 RH :GPRS 1900

Fundamental Frequen-:1850.2 MHz :Tin Engineer

Operation Mode :Tx CH LOW

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
57.16	S	-62.42	-54.05	-7.29	-1.07	-13.00	-49.42
159.01	S	-67.98	-66.98	0.47	-1.47	-13.00	-54.98
364.65	S	-66.45	-70.29	6.00	-2.16	-13.00	-53.45
522.76	S	-63.16	-66.62	5.88	-2.42	-13.00	-50.16
686.69	S	-61.03	-63.54	5.25	-2.74	-13.00	-48.03
807.94	S	-59.78	-62.36	5.48	-2.89	-13.00	-46.78
3700.40	Н	-53.29	-59.15	12.44	-6.58	-13.00	-40.29

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Operation Mode

Report No.: ER/2017/90156

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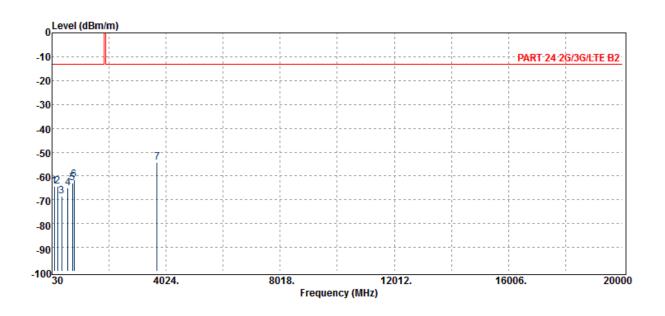
Operation Band :GPRS 1900 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1850.2 MHz :Tin Engineer

:Tx CH LOW

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
103.72	S	-64.42	-63.35	0.20	-1.26	-13.00	-51.42
221.09	S	-64.24	-67.98	5.45	-1.71	-13.00	-51.24
364.65	S	-68.36	-72.20	6.00	-2.16	-13.00	-55.36
587.75	S	-65.18	-67.86	5.47	-2.79	-13.00	-52.18
744.89	S	-62.92	-65.13	5.32	-3.11	-13.00	-49.92
807.94	S	-61.71	-64.29	5.48	-2.89	-13.00	-48.71
3700.40	Н	-54.20	-60.06	12.44	-6.58	-13.00	-41.20



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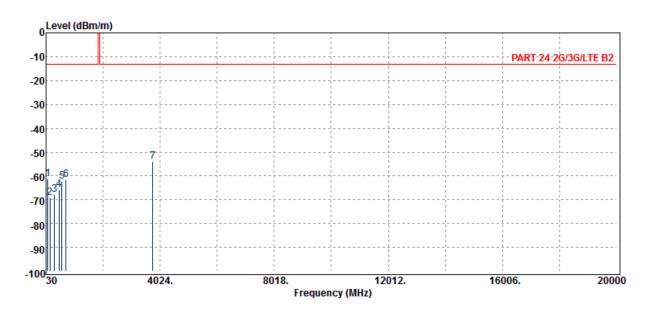
Operation Band :GPRS 1900 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1880 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
94.99	S	-61.40	-61.28	1.11	-1.23	-13.00	-48.40
173.56	S	-69.10	-69.45	1.89	-1.53	-13.00	-56.10
332.64	S	-67.94	-71.96	5.93	-1.91	-13.00	-54.94
482.99	S	-65.91	-69.60	5.94	-2.25	-13.00	-52.91
582.90	S	-62.38	-65.10	5.51	-2.79	-13.00	-49.38
726.46	S	-61.57	-63.76	5.29	-3.10	-13.00	-48.57
3760.00	Н	-54.11	-59.96	12.45	-6.60	-13.00	-41.11



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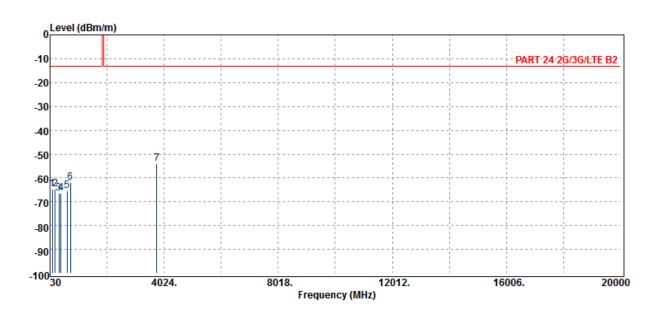
Operation Band :GPRS 1900 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1880 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-64.63	-63.47	0.11	-1.27	-13.00	-51.63
216.24	S	-64.61	-68.47	5.55	-1.69	-13.00	-51.61
337.49	S	-66.49	-70.50	5.95	-1.95	-13.00	-53.49
410.24	S	-66.58	-70.12	5.93	-2.40	-13.00	-53.58
626.55	S	-65.32	-68.16	5.34	-2.49	-13.00	-52.32
745.86	S	-61.81	-64.03	5.32	-3.10	-13.00	-48.81
3760.00	Н	-53.82	-59.68	12.45	-6.60	-13.00	-40.82



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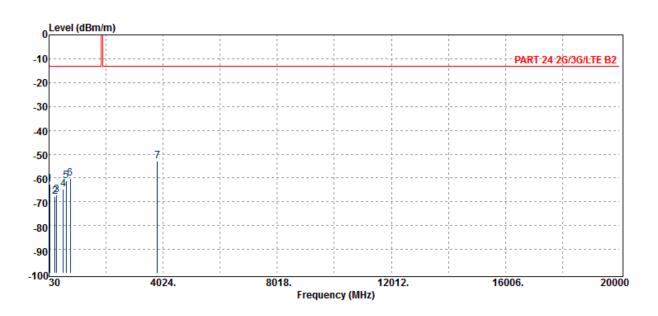
Operation Band :GPRS 1900 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1909.8 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
55.22	S	-62.50	-53.66	-7.78	-1.06	-13.00	-49.50
239.52	S	-67.72	-71.40	5.43	-1.74	-13.00	-54.72
294.81	S	-67.13	-70.86	5.67	-1.94	-13.00	-54.13
524.70	S	-64.56	-67.99	5.87	-2.44	-13.00	-51.56
623.64	S	-61.27	-64.10	5.34	-2.52	-13.00	-48.27
772.05	S	-60.29	-62.75	5.40	-2.94	-13.00	-47.29
3819.60	Н	-53.09	-58.91	12.47	-6.65	-13.00	-40.09



Operation Mode

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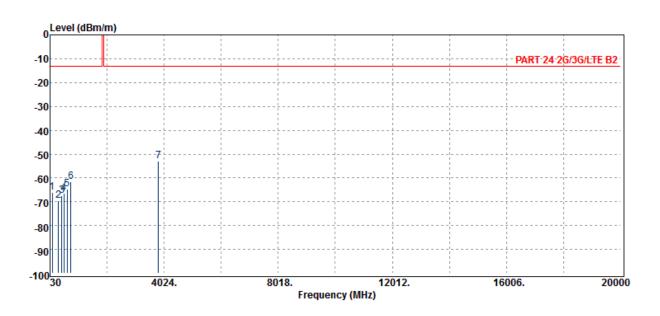
Operation Band :GPRS 1900 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1909.8 MHz :Tin Engineer

:Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-66.10	-64.94	0.11	-1.27	-13.00	-53.10
325.85	S	-69.57	-73.55	5.90	-1.92	-13.00	-56.57
447.10	S	-67.37	-70.98	5.80	-2.19	-13.00	-54.37
515.00	S	-66.44	-70.00	5.92	-2.36	-13.00	-53.44
631.40	S	-64.62	-67.48	5.33	-2.46	-13.00	-51.62
762.35	S	-61.76	-64.13	5.37	-3.00	-13.00	-48.76
3819.60	Н	-53.01	-58.83	12.47	-6.65	-13.00	-40.01



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Radiated Spurious Emission Measurement Result: WCDMA Band 2 Mode (The Worst Case)

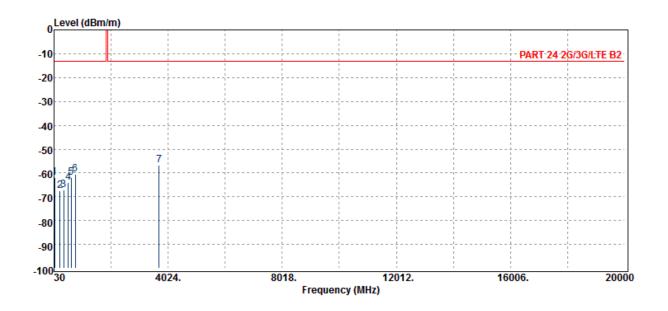
Operation Band Temp./Humi. :21 deg_C / 62 RH :HSDPA B2

Fundamental Frequen-:1852.4 MHz Engineer :Tin

:Tx CH LOW **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
57.16	S	-61.79	-53.42	-7.29	-1.07	-13.00	-48.79
236.61	S	-67.50	-71.14	5.38	-1.73	-13.00	-54.50
367.56	S	-67.12	-70.94	6.00	-2.18	-13.00	-54.12
531.49	S	-64.09	-67.41	5.84	-2.51	-13.00	-51.09
623.64	S	-62.08	-64.90	5.34	-2.52	-13.00	-49.08
774.96	S	-60.45	-62.94	5.41	-2.92	-13.00	-47.45
3704.80	Н	-56.70	-62.56	12.44	-6.58	-13.00	-43.70

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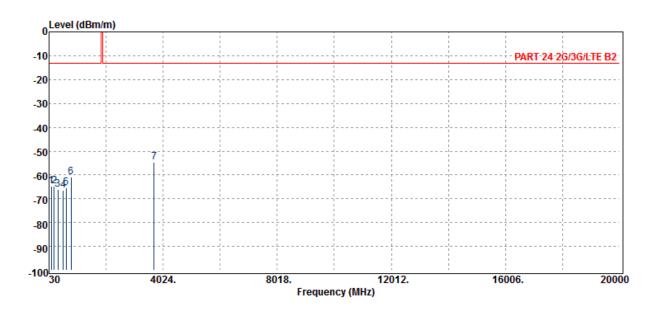
Operation Band :HSDPA B2 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1852.4 MHz :Tin Engineer

:Tx CH LOW **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-64.54	-63.38	0.11	-1.27	-13.00	-51.54
212.36	S	-64.68	-68.63	5.63	-1.68	-13.00	-51.68
337.49	S	-66.04	-70.05	5.95	-1.95	-13.00	-53.04
531.49	S	-66.34	-69.67	5.84	-2.51	-13.00	-53.34
625.58	S	-65.27	-68.11	5.34	-2.50	-13.00	-52.27
808.91	S	-60.83	-63.41	5.48	-2.89	-13.00	-47.83
3704.80	Н	-54.69	-60.55	12.44	-6.58	-13.00	-41.69



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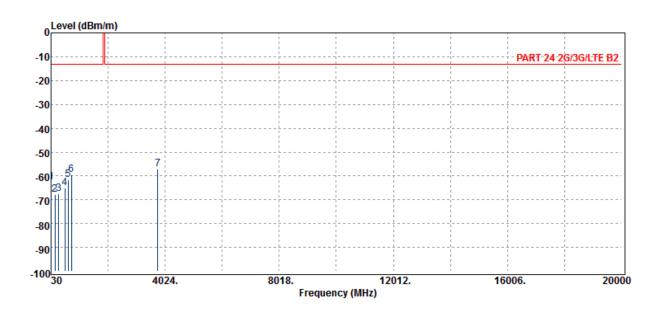
Operation Band :HSDPA B2 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1880 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
41.64	S	-62.58	-50.89	-10.68	-1.00	-13.00	-49.58
165.80	S	-67.73	-67.17	0.94	-1.50	-13.00	-54.73
294.81	S	-67.57	-71.30	5.67	-1.94	-13.00	-54.57
515.00	S	-64.99	-68.55	5.92	-2.36	-13.00	-51.99
629.46	S	-61.69	-64.55	5.33	-2.47	-13.00	-48.69
750.71	S	-59.50	-61.77	5.33	-3.07	-13.00	-46.50
3760.00	Н	-57.12	-62.97	12.45	-6.60	-13.00	-44.12



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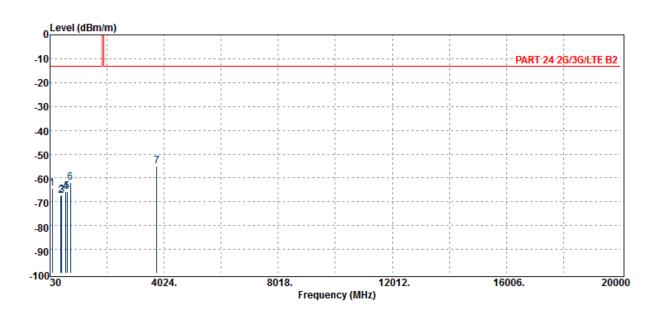
Operation Band :HSDPA B2 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1880 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
103.72	S	-64.51	-63.45	0.20	-1.26	-13.00	-51.51
413.15	S	-67.50	-71.04	5.92	-2.38	-13.00	-54.50
435.46	S	-67.15	-70.76	5.84	-2.23	-13.00	-54.15
585.81	S	-65.76	-68.45	5.49	-2.79	-13.00	-52.76
629.46	S	-65.63	-68.49	5.33	-2.47	-13.00	-52.63
741.01	S	-62.08	-64.26	5.31	-3.13	-13.00	-49.08
3760.00	Н	-54.96	-60.82	12.45	-6.60	-13.00	-41.96

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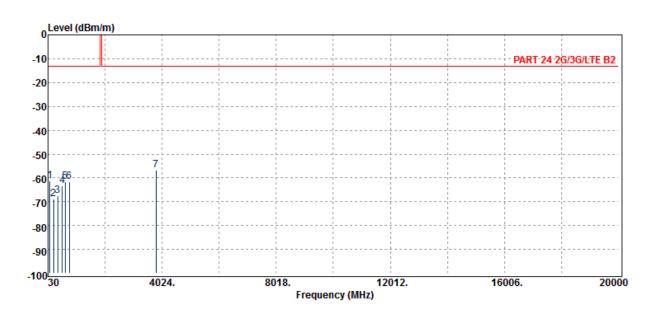
Operation Band :HSDPA B2 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1907.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
93.05	S	-61.25	-61.37	1.34	-1.22	-13.00	-48.25
226.91	S	-68.87	-72.48	5.33	-1.72	-13.00	-55.87
376.29	S	-67.54	-71.29	5.99	-2.24	-13.00	-54.54
534.40	S	-63.22	-66.50	5.82	-2.54	-13.00	-50.22
634.31	S	-61.71	-64.57	5.32	-2.45	-13.00	-48.71
767.20	S	-61.67	-64.08	5.39	-2.97	-13.00	-48.67
3815.20	Н	-56.81	-62.64	12.46	-6.63	-13.00	-43.81



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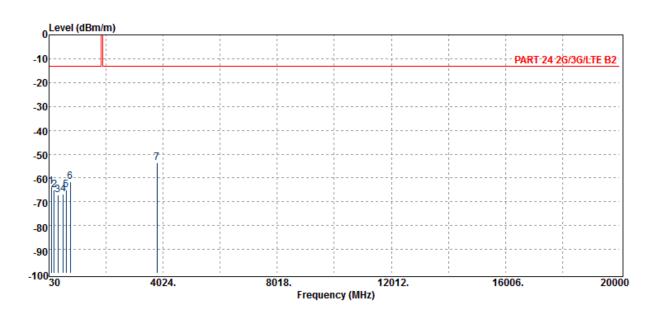
Operation Band :HSDPA B2 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1907.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-63.80	-62.65	0.11	-1.27	-13.00	-50.80
214.30	S	-64.90	-68.80	5.59	-1.68	-13.00	-51.90
340.40	S	-67.30	-71.30	5.97	-1.97	-13.00	-54.30
526.64	S	-66.69	-70.09	5.86	-2.46	-13.00	-53.69
631.40	S	-65.07	-67.94	5.33	-2.46	-13.00	-52.07
773.99	S	-61.76	-64.24	5.41	-2.93	-13.00	-48.76
3815.20	Н	-53.50	-59.33	12.46	-6.63	-13.00	-40.50



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Radiated Spurious Emission Measurement Result: WCDMA Band 4 Mode (The Worst Case)

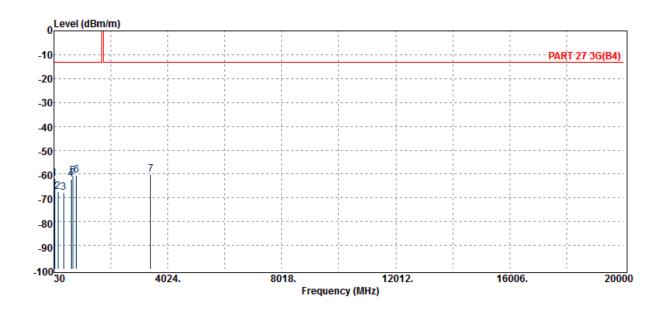
Operation Band Temp./Humi. :21 deg_C / 62 RH :HSDPA B4

Fundamental Frequen-:1712.4 MHz Engineer :Tin

Operation Mode :Tx CH LOW

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
57.16	S	-61.80	-53.44	-7.29	-1.07	-13.00	-48.80
163.86	S	-67.64	-66.95	0.80	-1.49	-13.00	-54.64
362.71	S	-67.82	-71.68	6.00	-2.15	-13.00	-54.82
624.61	S	-62.21	-65.04	5.34	-2.51	-13.00	-49.21
681.84	S	-60.94	-63.54	5.25	-2.65	-13.00	-47.94
818.61	S	-60.58	-63.14	5.46	-2.91	-13.00	-47.58
3424.80	Н	-60.13	-66.17	12.27	-6.23	-13.00	-47.13

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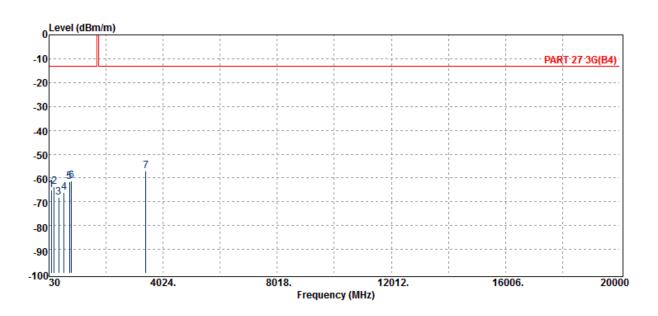
Operation Band :HSDPA B4 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1712.4 MHz :Tin Engineer

:Tx CH LOW **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



	Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin	
_	MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
	104.69	S	-64.90	-63.74	0.11	-1.27	-13.00	-51.90	
	214.30	S	-63.50	-67.40	5.59	-1.68	-13.00	-50.50	
	371.44	S	-68.03	-71.81	5.99	-2.21	-13.00	-55.03	
	550.89	S	-66.13	-69.16	5.73	-2.71	-13.00	-53.13	
	738.10	S	-61.44	-63.61	5.31	-3.13	-13.00	-48.44	
	817.64	S	-61.12	-63.68	5.47	-2.90	-13.00	-48.12	
	3424.80	Н	-57.19	-63.23	12.27	-6.23	-13.00	-44.19	



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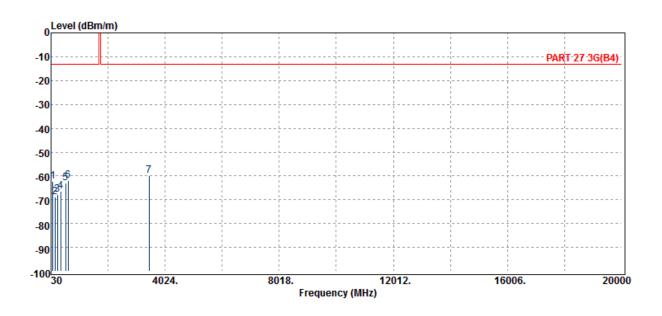
Operation Band :HSDPA B4 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1732.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
91.11	S	-62.35	-62.71	1.58	-1.21	-13.00	-49.35
165.80	S	-68.89	-68.33	0.94	-1.50	-13.00	-55.89
248.25	S	-67.86	-71.67	5.56	-1.75	-13.00	-54.86
366.59	S	-66.56	-70.38	6.00	-2.17	-13.00	-53.56
536.34	S	-62.88	-66.12	5.81	-2.56	-13.00	-49.88
626.55	S	-61.92	-64.77	5.34	-2.49	-13.00	-48.92
3465.20	Н	-59.71	-65.81	12.34	-6.25	-13.00	-46.71



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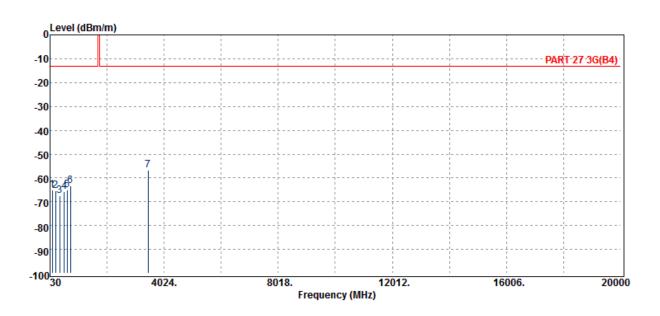
Operation Band :HSDPA B4 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1732.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-65.00	-63.84	0.11	-1.27	-13.00	-52.00
222.06	S	-65.24	-68.97	5.43	-1.71	-13.00	-52.24
362.71	S	-67.32	-71.18	6.00	-2.15	-13.00	-54.32
521.79	S	-65.58	-69.06	5.89	-2.41	-13.00	-52.58
631.40	S	-65.22	-68.08	5.33	-2.46	-13.00	-52.22
750.71	S	-63.25	-65.51	5.33	-3.07	-13.00	-50.25
3465.20	Н	-56.84	-62.94	12.34	-6.25	-13.00	-43.84



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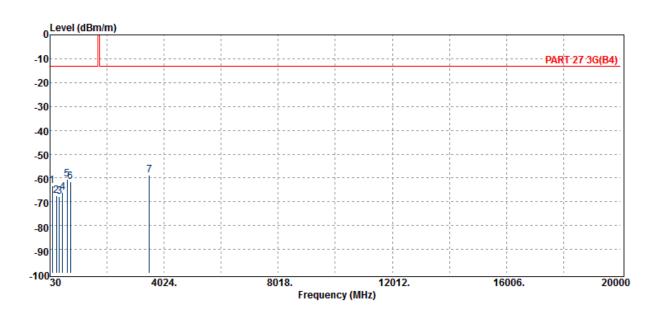
Operation Band :HSDPA B4 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1752.6 MHz :Tin Engineer

:Tx CH HIGH **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
103.72	S	-63.30	-62.23	0.20	-1.26	-13.00	-50.30
248.25	S	-67.62	-71.43	5.56	-1.75	-13.00	-54.62
359.80	S	-67.96	-71.84	6.00	-2.12	-13.00	-54.96
473.29	S	-66.14	-69.81	5.90	-2.23	-13.00	-53.14
631.40	S	-60.57	-63.43	5.33	-2.46	-13.00	-47.57
744.89	S	-61.44	-63.65	5.32	-3.11	-13.00	-48.44
3505.20	Н	-58.73	-64.67	12.40	-6.47	-13.00	-45.73



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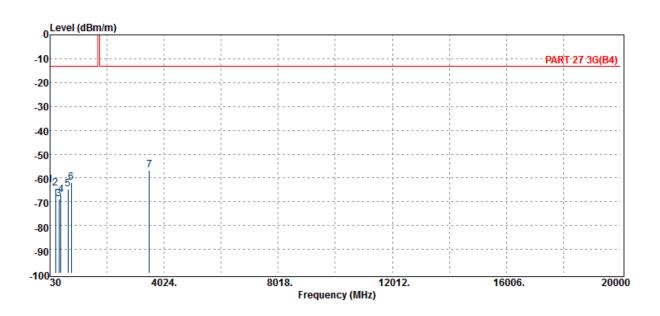
Operation Band :HSDPA B4 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1752.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
37.76	S	-63.12	-50.97	-11.17	-0.98	-13.00	-50.12
224.00	S	-64.41	-68.09	5.39	-1.71	-13.00	-51.41
335.55	S	-69.01	-73.02	5.95	-1.93	-13.00	-56.01
410.24	S	-67.26	-70.80	5.93	-2.40	-13.00	-54.26
658.56	S	-64.57	-67.47	5.28	-2.38	-13.00	-51.57
772.05	S	-61.86	-64.33	5.40	-2.94	-13.00	-48.86
3505.20	Н	-56.87	-62.80	12.40	-6.47	-13.00	-43.87



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Radiated Spurious Emission Measurement Result: WCDMA Band 5 Mode (The Worst Case)

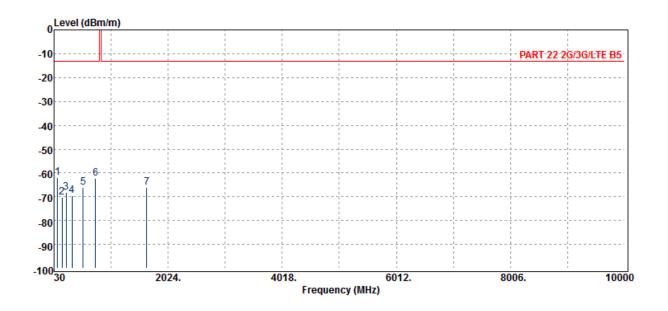
Operation Band Temp./Humi. :21 deg_C / 62 RH :HSDPA B5

Fundamental Frequen-:826.4 MHz Engineer :Tin

:Tx CH LOW **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
93.05	S	-59.68	-59.80	1.34	-1.22	-13	-46.68
168.71	S	-68.25	-67.89	1.15	-1.51	-13	-55.25
243.40	S	-66.07	-69.81	5.49	-1.75	-13	-53.07
342.34	S	-67.27	-71.26	5.98	-1.99	-13	-54.27
542.16	S	-63.94	-67.10	5.78	-2.62	-13	-50.94
757.50	S	-60.00	-62.33	5.36	-3.03	-13	-47.00
1652.80	Н	-63.83	-68.86	9.27	-4.24	-13	-50.83

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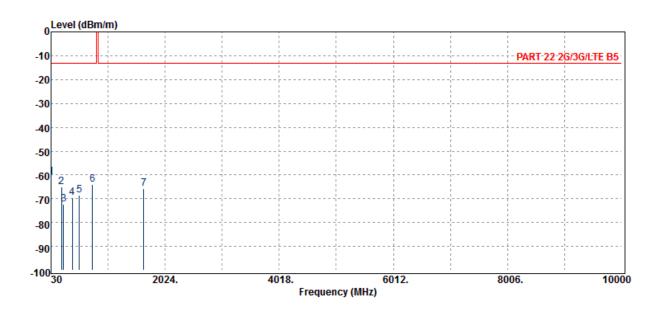
Operation Band :HSDPA B5 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:826.4 MHz :Tin Engineer

:Tx CH LOW **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-58.69	-45.10	-12.63	-0.96	-13	-45.69
217.21	S	-62.76	-66.60	5.53	-1.69	-13	-49.76
249.22	S	-70.11	-73.93	5.58	-1.76	-13	-57.11
400.54	S	-67.43	-71.02	5.97	-2.38	-13	-54.43
522.76	S	-66.37	-69.83	5.88	-2.42	-13	-53.37
757.50	S	-61.89	-64.22	5.36	-3.03	-13	-48.89
1652.80	Н	-63.74	-68.77	9.27	-4.24	-13	-50.74

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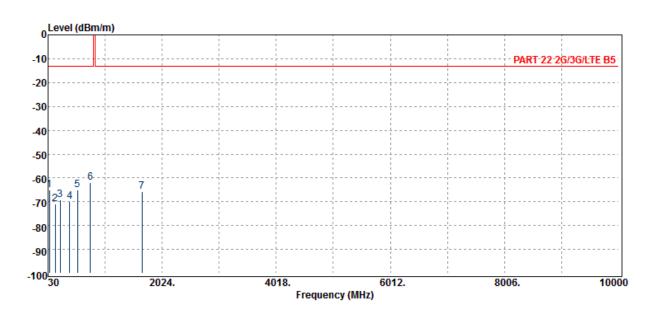
Operation Band :HSDPA B5 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:836.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-62.81	-53.72	-8.03	-1.06	-13	-49.81
158.04	S	-68.62	-67.57	0.42	-1.47	-13	-55.62
239.52	S	-67.05	-70.74	5.43	-1.74	-13	-54.05
411.21	S	-67.71	-71.25	5.93	-2.39	-13	-54.71
548.95	S	-63.01	-66.06	5.74	-2.69	-13	-50.01
769.14	S	-59.95	-62.38	5.39	-2.96	-13	-46.95
1673.20	Н	-63.53	-68.59	9.35	-4.29	-13	-50.53

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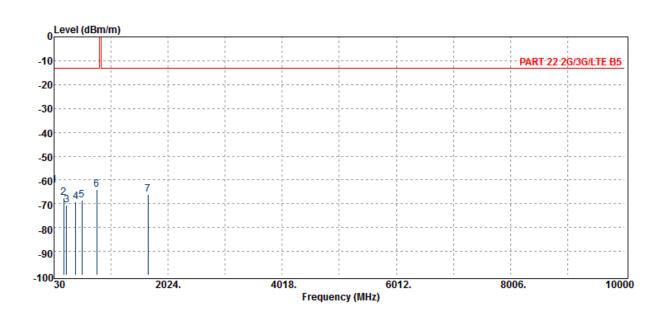
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Operation Band :HSDPA B5 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:836.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-60.04	-46.45	-12.63	-0.96	-13	-47.04
202.66	S	-65.23	-68.95	5.37	-1.65	-13	-52.23
248.25	S	-68.49	-72.30	5.56	-1.75	-13	-55.49
408.30	S	-66.95	-70.48	5.94	-2.41	-13	-53.95
517.91	S	-66.45	-69.99	5.91	-2.37	-13	-53.45
773.99	S	-61.74	-64.22	5.41	-2.93	-13	-48.74
1673.20	Н	-63.83	-68.89	9.35	-4.29	-13	-50.83



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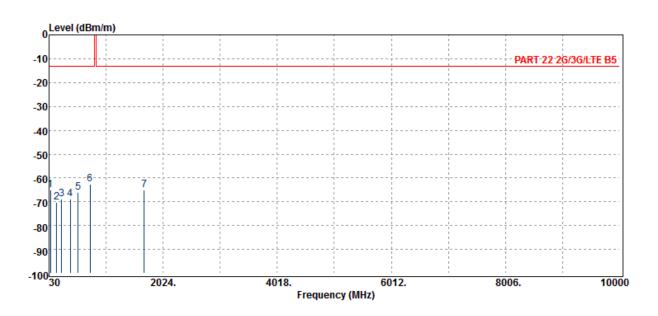
Operation Band :HSDPA B5 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:846.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-62.89	-53.80	-8.03	-1.06	-13	-49.89
159.98	S	-68.00	-67.03	0.51	-1.48	-13	-55.00
248.25	S	-66.83	-70.64	5.56	-1.75	-13	-53.83
403.45	S	-66.69	-70.25	5.96	-2.40	-13	-53.69
541.19	S	-63.77	-66.94	5.78	-2.61	-13	-50.77
745.86	S	-60.41	-62.63	5.32	-3.10	-13	-47.41
1693.20	Н	-62.97	-68.09	9.42	-4.30	-13	-49.97



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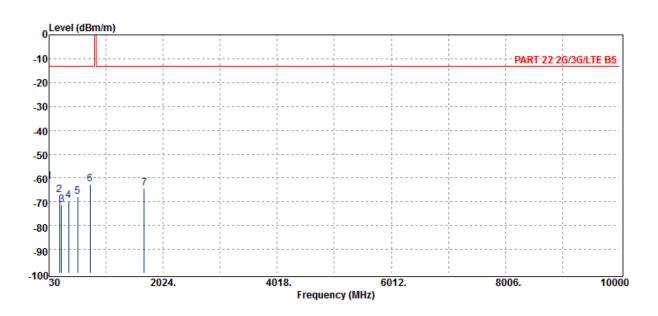
Operation Band :HSDPA B5 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:846.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-59.35	-45.76	-12.63	-0.96	-13	-46.35
216.24	S	-64.91	-68.77	5.55	-1.69	-13	-51.91
250.19	S	-69.30	-73.13	5.59	-1.76	-13	-56.30
371.44	S	-67.44	-71.22	5.99	-2.21	-13	-54.44
529.55	S	-65.74	-69.10	5.85	-2.49	-13	-52.74
744.89	S	-60.65	-62.86	5.32	-3.11	-13	-47.65
1693.20	Н	-62.23	-67.35	9.42	-4.30	-13	-49.23



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Radiated Spurious Emission Measurement Result: LTE-Band 2 (The Worst Case)

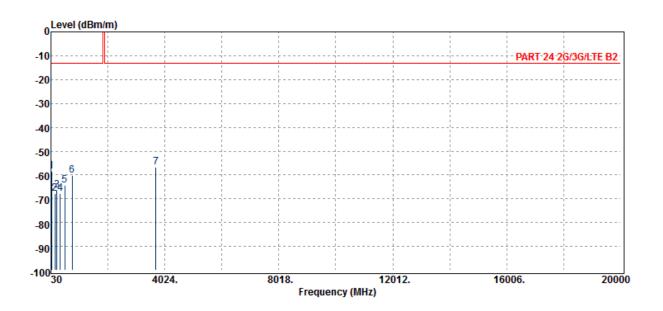
Temp./Humi. Operation Band :23 deg_C / 62 RH :LTE B2

Fundamental Frequen-:1855.0 MHz :Tin Engineer

Operation Mode :Tx CH LOW

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



	Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin	
_	MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
	54.25	S	-58.37	-49.27	-8.03	-1.06	-13.00	-45.37	
	165.80	S	-67.65	-67.09	0.94	-1.50	-13.00	-54.65	
	239.52	S	-66.53	-70.22	5.43	-1.74	-13.00	-53.53	
	361.74	S	-67.81	-71.68	6.00	-2.14	-13.00	-54.81	
	517.91	S	-64.22	-67.76	5.91	-2.37	-13.00	-51.22	
	773.99	S	-60.19	-62.67	5.41	-2.93	-13.00	-47.19	
	3710.00	Н	-56.77	-62.64	12.44	-6.58	-13.00	-43.77	

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Operation Band :LTE B2 Temp./Humi. :23 deg_C / 62 RH

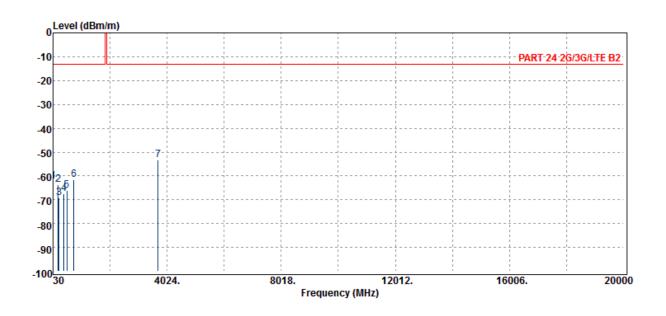
Fundamental Frequen-:1855.0 MHz Engineer :Tin

:H Plane

:Tx CH LOW Mode: 10M QPSK RB 1,0 **Operation Mode**

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-62.39	-48.80	-12.63	-0.96	-13.00	-49.39
207.51	S	-63.59	-67.50	5.57	-1.66	-13.00	-50.59
246.31	S	-69.12	-72.91	5.53	-1.75	-13.00	-56.12
410.24	S	-67.35	-70.88	5.93	-2.40	-13.00	-54.35
516.94	S	-66.22	-69.77	5.91	-2.37	-13.00	-53.22
764.29	S	-61.49	-63.88	5.38	-2.99	-13.00	-48.49
3710.00	Н	-53.22	-59.09	12.44	-6.58	-13.00	-40.22



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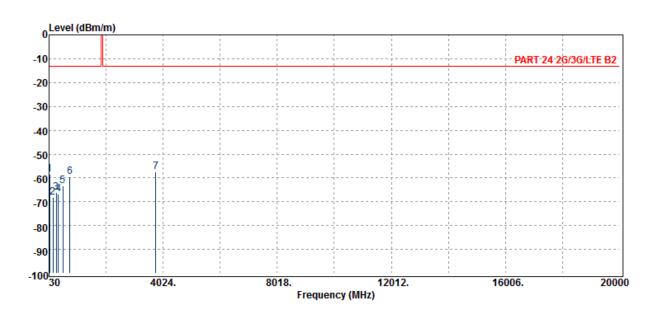
Operation Band :LTE B2 Temp./Humi. :23 deg_C / 62 RH

Fundamental Frequen-:1880.0 MHz Engineer :Tin

Mode: 10M QPSK RB 1,0 **Operation Mode** :Tx CH MID

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin	
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
54.25	S	-58.63	-49.53	-8.03	-1.06	-13.00	-45.63	
168.71	S	-68.09	-67.72	1.15	-1.51	-13.00	-55.09	
282.20	S	-66.02	-69.71	5.57	-1.89	-13.00	-53.02	
361.74	S	-66.72	-70.59	6.00	-2.14	-13.00	-53.72	
517.91	S	-63.35	-66.89	5.91	-2.37	-13.00	-50.35	
755.56	S	-59.67	-61.97	5.35	-3.04	-13.00	-46.67	
3760.00	Н	-57.35	-63.20	12.45	-6.60	-13.00	-44.35	



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:23 deg_C / 62 RH

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Operation Band :LTE B2 Temp./Humi.

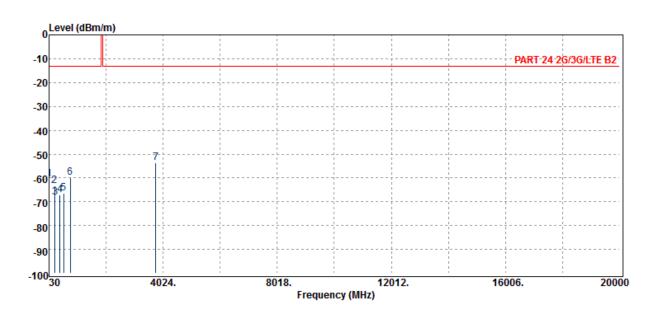
Fundamental Frequen-:1880.0 MHz Engineer :Tin

:H Plane

Mode: 10M QPSK RB 1,0 **Operation Mode** :Tx CH MID

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-60.47	-46.88	-12.63	-0.96	-13.00	-47.47
219.15	S	-63.37	-67.17	5.49	-1.70	-13.00	-50.37
240.49	S	-68.01	-71.71	5.44	-1.74	-13.00	-55.01
406.36	S	-66.99	-70.52	5.95	-2.42	-13.00	-53.99
539.25	S	-66.46	-69.66	5.79	-2.59	-13.00	-53.46
770.11	S	-59.96	-62.40	5.40	-2.95	-13.00	-46.96
3760.00	Н	-53.72	-59.58	12.45	-6.60	-13.00	-40.72



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Operation Band :LTE B2 Temp./Humi. :23 deg_C / 62 RH

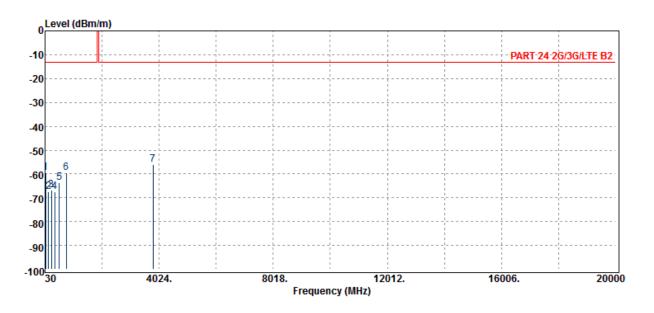
Fundamental Frequen-:1905.0 MHz Engineer :Tin

:H Plane

Mode: 10M QPSK RB 1,0 **Operation Mode** :Tx CH HIGH

> Antenna :VERTICAL Measurement

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-59.35	-50.25	-8.03	-1.06	-13.00	-46.35
159.01	S	-67.50	-66.50	0.47	-1.47	-13.00	-54.50
248.25	S	-66.91	-70.72	5.56	-1.75	-13.00	-53.91
376.29	S	-67.48	-71.23	5.99	-2.24	-13.00	-54.48
527.61	S	-63.64	-67.02	5.86	-2.47	-13.00	-50.64
769.14	S	-59.40	-61.83	5.39	-2.96	-13.00	-46.40
3810.00	Н	-56.10	-61.95	12.46	-6.62	-13.00	-43.10



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Operation Band :LTE B2 Temp./Humi. :23 deg_C / 62 RH

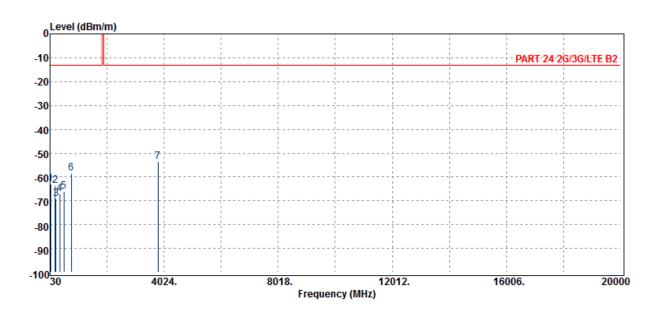
Fundamental Frequen-:1905.0 MHz Engineer :Tin

:H Plane

Mode: 10M QPSK RB 1,0 **Operation Mode** :Tx CH HIGH

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-62.84	-53.75	-8.03	-1.06	-13.00	-49.84
207.51	S	-63.52	-67.43	5.57	-1.66	-13.00	-50.52
246.31	S	-69.22	-73.00	5.53	-1.75	-13.00	-56.22
366.59	S	-67.08	-70.90	6.00	-2.17	-13.00	-54.08
517.91	S	-66.18	-69.72	5.91	-2.37	-13.00	-53.18
773.99	S	-58.35	-60.83	5.41	-2.93	-13.00	-45.35
3810.00	Н	-53.50	-59.34	12.46	-6.62	-13.00	-40.50



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Radiated Spurious Emission Measurement Result: LTE-Band 4 (The Worst Case)

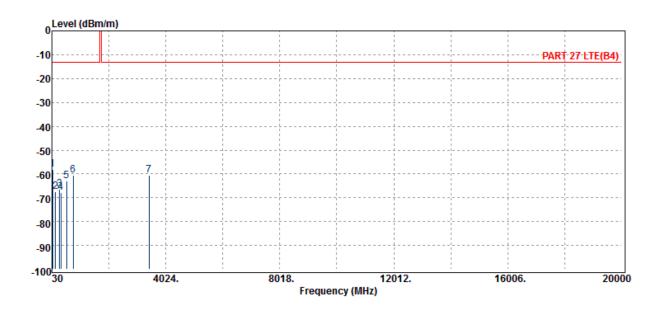
Operation Band Temp./Humi. :23 deg_C / 62 RH :LTE B4

Fundamental Frequen-:1715 MHz Engineer :Tin

Operation Mode :Tx CH LOW Mode: 10M QPSK RB 1,0

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-57.97	-48.87	-8.03	-1.06	-13.00	-44.97
154.16	S	-67.57	-66.36	0.25	-1.45	-13.00	-54.57
296.75	S	-66.54	-70.30	5.71	-1.95	-13.00	-53.54
337.49	S	-67.69	-71.69	5.95	-1.95	-13.00	-54.69
537.31	S	-62.85	-66.08	5.80	-2.57	-13.00	-49.85
773.99	S	-60.54	-63.02	5.41	-2.93	-13.00	-47.54
3440.00	Н	-60.50	-66.58	12.30	-6.22	-13.00	-47.50



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Operation Band :LTE B4 Temp./Humi. :23 deg_C / 62 RH

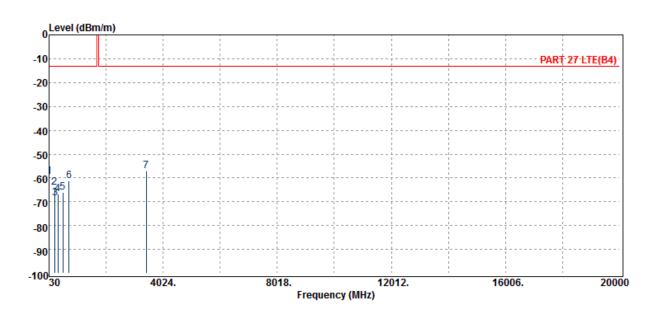
Fundamental Frequen-:1715 MHz Engineer :Tin

:H Plane

Mode: 10M QPSK RB 1,0 **Operation Mode** :Tx CH LOW

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-59.57	-45.98	-12.63	-0.96	-13.00	-46.57
220.12	S	-63.85	-67.62	5.48	-1.70	-13.00	-50.85
239.52	S	-68.59	-72.28	5.43	-1.74	-13.00	-55.59
335.55	S	-66.62	-70.63	5.95	-1.93	-13.00	-53.62
519.85	S	-66.00	-69.50	5.90	-2.39	-13.00	-53.00
733.25	S	-61.17	-63.35	5.30	-3.12	-13.00	-48.17
3440.00	Н	-56.93	-63.01	12.30	-6.22	-13.00	-43.93



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Operation Band :LTE B4

Fundamental Frequen-

:1732.5 MHz

:Tx CH MID **Operation Mode**

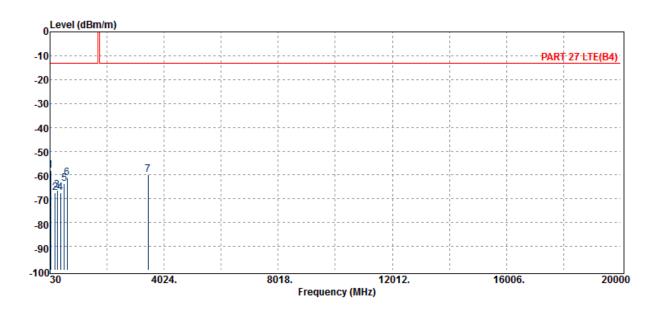
EUT Pol. :H Plane Temp./Humi. :23 deg_C / 62 RH

Engineer :Tin

Mode: 10M QPSK RB 1,0

Antenna :VERTICAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-58.11	-49.02	-8.03	-1.06	-13.00	-45.11
212.36	S	-67.34	-71.29	5.63	-1.68	-13.00	-54.34
285.11	S	-66.45	-70.13	5.58	-1.90	-13.00	-53.45
400.54	S	-67.52	-71.10	5.97	-2.38	-13.00	-54.52
527.61	S	-63.75	-67.14	5.86	-2.47	-13.00	-50.75
624.61	S	-61.08	-63.92	5.34	-2.51	-13.00	-48.08
3465.00	Н	-59.88	-65.98	12.34	-6.25	-13.00	-46.88



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:23 deg_C / 62 RH

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Operation Band :LTE B4 Temp./Humi.

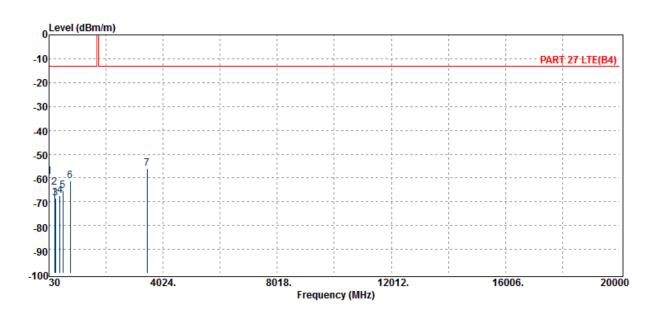
:H Plane

Fundamental Frequen-:1732.5 MHz Engineer :Tin

:Tx CH MID Mode: 10M QPSK RB 1,0 **Operation Mode**

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-59.41	-45.82	-12.63	-0.96	-13.00	-46.41
219.15	S	-63.89	-67.69	5.49	-1.70	-13.00	-50.89
251.16	S	-68.57	-72.43	5.62	-1.76	-13.00	-55.57
410.24	S	-67.45	-70.99	5.93	-2.40	-13.00	-54.45
519.85	S	-65.41	-68.92	5.90	-2.39	-13.00	-52.41
770.11	S	-61.15	-63.60	5.40	-2.95	-13.00	-48.15
3465.00	Н	-56.10	-62.20	12.34	-6.25	-13.00	-43.10



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Operation Band :LTE B4 Temp./Humi. :23 deg_C / 62 RH

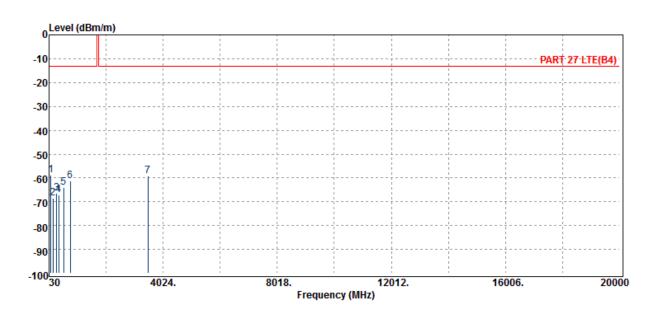
Fundamental Frequen-:1750 MHz Engineer :Tin

:H Plane

Mode: 10M QPSK RB 1,0 **Operation Mode** :Tx CH HIGH

> Antenna :VERTICAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
95.96	S	-58.99	-58.75	0.99	-1.23	-13.00	-45.99
165.80	S	-68.51	-67.95	0.94	-1.50	-13.00	-55.51
294.81	S	-66.26	-69.99	5.67	-1.94	-13.00	-53.26
369.50	S	-67.25	-71.05	6.00	-2.20	-13.00	-54.25
542.16	S	-63.87	-67.03	5.78	-2.62	-13.00	-50.87
774.96	S	-61.14	-63.63	5.41	-2.92	-13.00	-48.14
3490.00	Н	-59.03	-65.06	12.38	-6.35	-13.00	-46.03



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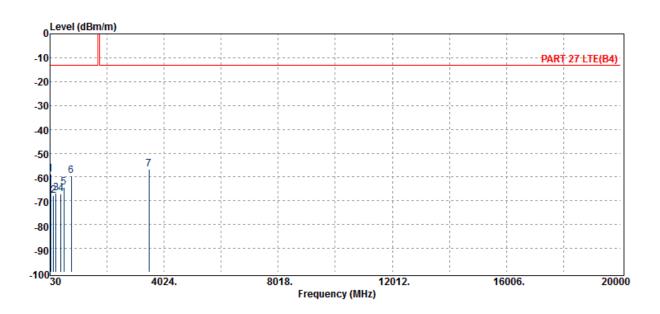
Operation Band :LTE B4 Temp./Humi. :23 deg_C / 62 RH

Fundamental Frequen-:1750 MHz Engineer :Tin

Mode: 10M QPSK RB 1,0 **Operation Mode** :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-58.84	-49.75	-8.03	-1.06	-13.00	-45.84
154.16	S	-67.88	-66.68	0.25	-1.45	-13.00	-54.88
239.52	S	-66.66	-70.35	5.43	-1.74	-13.00	-53.66
415.09	S	-67.15	-70.70	5.92	-2.37	-13.00	-54.15
519.85	S	-64.29	-67.79	5.90	-2.39	-13.00	-51.29
769.14	S	-59.44	-61.87	5.39	-2.96	-13.00	-46.44
3490.00	Н	-56.78	-62.81	12.38	-6.35	-13.00	-43.78



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Radiated Spurious Emission Measurement Result: LTE-Band 5 (The Worst Case)

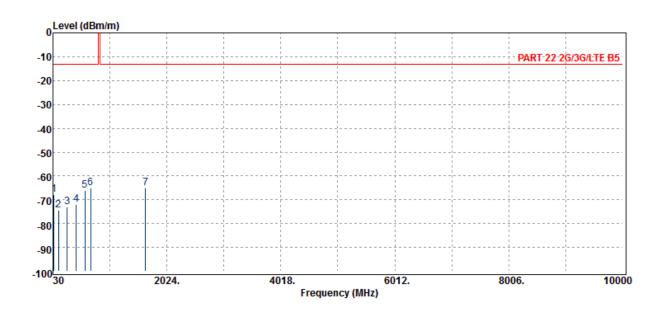
Temp./Humi. Operation Band :22 deg_C / 61 RH :LTE B5

Fundamental Frequen-:826.5 MHz :Tin Engineer

Operation Mode :Tx CH LOW

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
48.43	S	-65.66	-55.12	-9.50	-1.04	-13	-52.66
124.09	S	-72.10	-70.39	-0.37	-1.34	-13	-59.10
278.32	S	-70.70	-74.42	5.59	-1.87	-13	-57.70
438.37	S	-69.74	-73.35	5.83	-2.22	-13	-56.74
592.60	S	-64.05	-66.70	5.44	-2.79	-13	-51.05
692.51	S	-62.91	-65.31	5.24	-2.84	-13	-49.91
1653.00	Н	-63.05	-68.08	9.27	-4.24	-13	-50.05



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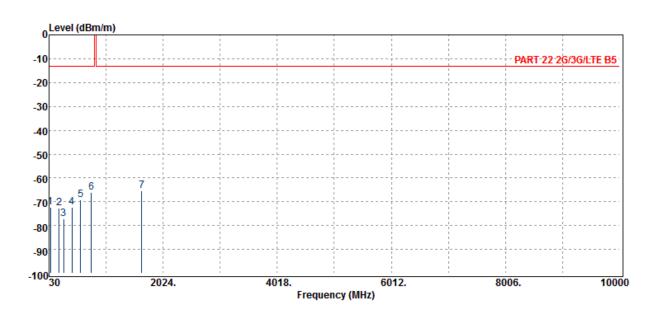
Operation Band :LTE B5 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:826.5 MHz :Tin Engineer

:Tx CH LOW **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
56.19	S	-70.23	-61.62	-7.54	-1.07	-13	-57.23
203.63	S	-70.38	-74.14	5.41	-1.65	-13	-57.38
287.05	S	-74.93	-78.60	5.58	-1.91	-13	-61.93
430.61	S	-70.08	-73.68	5.86	-2.26	-13	-57.08
581.93	S	-67.16	-69.88	5.51	-2.79	-13	-54.16
770.11	S	-63.83	-66.28	5.40	-2.95	-13	-50.83
1653.00	Н	-63.23	-68.26	9.27	-4.24	-13	-50.23

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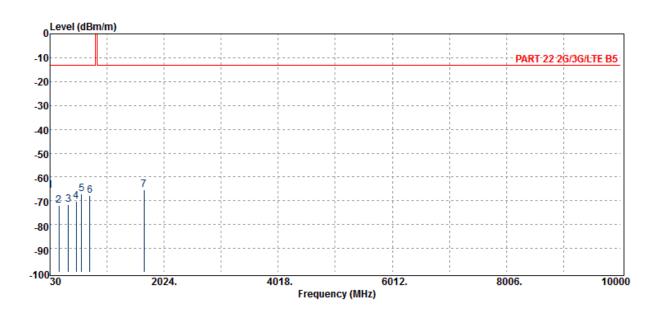
Operation Band :LTE B5 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:836.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
34.85	S	-63.70	-51.21	-11.52	-0.97	-13	-50.70
187.14	S	-69.98	-72.63	4.24	-1.59	-13	-56.98
348.16	S	-69.56	-73.53	6.00	-2.03	-13	-56.56
484.93	S	-68.06	-71.76	5.95	-2.25	-13	-55.06
579.02	S	-65.13	-67.88	5.53	-2.78	-13	-52.13
722.58	S	-65.58	-67.77	5.28	-3.09	-13	-52.58
1673.00	Н	-63.08	-68.14	9.35	-4.29	-13	-50.08



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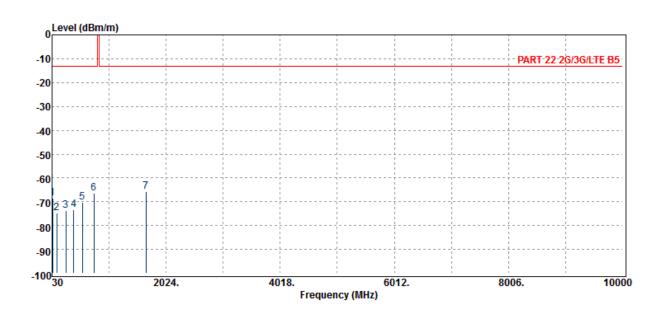
Operation Band :LTE B5 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:836.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
42.61	S	-66.23	-54.68	-10.54	-1.01	-13	-53.23
112.45	S	-72.68	-71.05	-0.33	-1.30	-13	-59.68
272.50	S	-71.51	-75.31	5.64	-1.84	-13	-58.51
407.33	S	-71.26	-74.78	5.94	-2.42	-13	-58.26
563.50	S	-68.02	-70.90	5.64	-2.76	-13	-55.02
764.29	S	-64.27	-66.66	5.38	-2.99	-13	-51.27
1673.00	Н	-63.48	-68.54	9.35	-4.29	-13	-50.48



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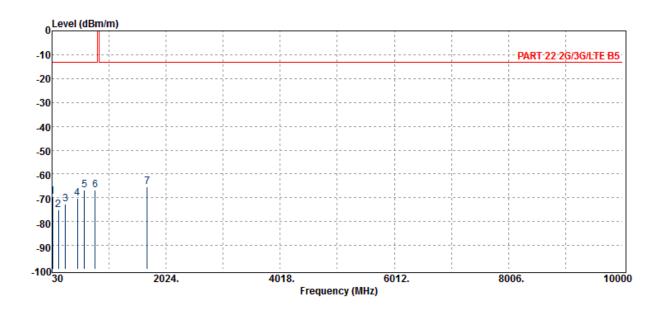
Operation Band :LTE B5 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:846.5 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
43.58	S	-67.47	-56.06	-10.40	-1.01	-13	-54.47
143.49	S	-72.88	-71.14	-0.33	-1.41	-13	-59.88
262.80	S	-70.46	-74.45	5.78	-1.79	-13	-57.46
476.20	S	-68.05	-71.73	5.91	-2.23	-13	-55.05
595.51	S	-64.72	-67.37	5.42	-2.77	-13	-51.72
785.63	S	-64.71	-67.25	5.45	-2.91	-13	-51.71
1693.00	Н	-63.20	-68.32	9.42	-4.30	-13	-50.20



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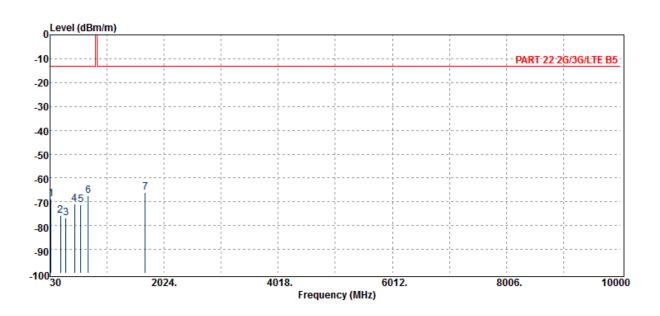
Operation Band :LTE B5 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:846.5 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
48.43	S	-66.68	-56.14	-9.50	-1.04	-13	-53.68
217.21	S	-73.63	-77.47	5.53	-1.69	-13	-60.63
308.39	S	-74.53	-78.41	5.82	-1.94	-13	-61.53
458.74	S	-68.84	-72.47	5.83	-2.20	-13	-55.84
566.41	S	-69.28	-72.13	5.62	-2.77	-13	-56.28
697.36	S	-65.47	-67.77	5.23	-2.93	-13	-52.47
1693.00	Н	-63.86	-68.98	9.42	-4.30	-13	-50.86



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Radiated Spurious Emission Measurement Result: LTE-Band 7 (The Worst Case)

Temp./Humi. Operation Band :LTE B7 :21 deg_C / 62 RH

Fundamental Frequen-:2507.5 MHz :Tin Engineer

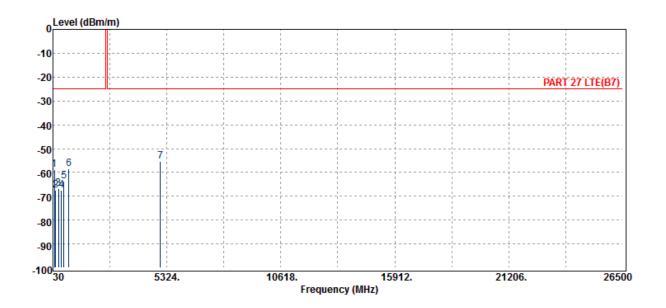
СУ

15M 16QAM **RB Operation Mode** :Tx CH LOW Mode:

1,74

Antenna :VERTICAL Measurement :H Plane EUT Pol.

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
94.99	S	-58.75	-58.63	1.11	-1.23	-25.00	-33.75
158.04	S	-67.59	-66.55	0.42	-1.47	-25.00	-42.59
294.81	S	-66.91	-70.63	5.67	-1.94	-25.00	-41.91
419.94	S	-67.37	-70.94	5.90	-2.33	-25.00	-42.37
537.31	S	-63.71	-66.95	5.80	-2.57	-25.00	-38.71
772.05	S	-58.53	-60.99	5.40	-2.94	-25.00	-33.53
5015.00	Н	-55.26	-60.15	12.71	-7.81	-25.00	-30.26

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Operation Band :LTE B7 Temp./Humi. :21 deg_C / 62 RH

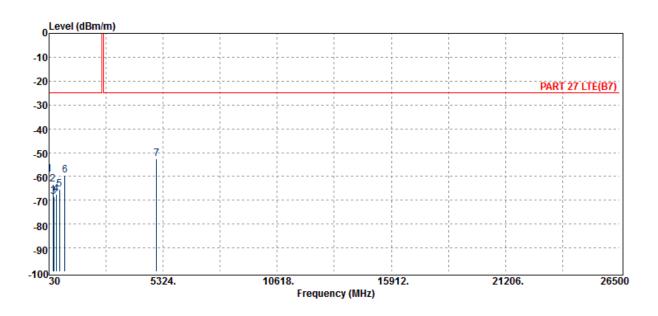
Fundamental Frequen-:2507.5 MHz :Tin Engineer

15M 16QAM **RB Operation Mode** :Tx CH LOW Mode:

1,74

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-59.08	-45.49	-12.63	-0.96	-25.00	-34.08
220.12	S	-63.27	-67.04	5.48	-1.70	-25.00	-38.27
251.16	S	-68.47	-72.33	5.62	-1.76	-25.00	-43.47
372.41	S	-67.40	-71.18	5.99	-2.21	-25.00	-42.40
519.85	S	-65.34	-68.85	5.90	-2.39	-25.00	-40.34
769.14	S	-59.64	-62.07	5.39	-2.96	-25.00	-34.64
5015.00	Н	-52.58	-57.48	12.71	-7.81	-25.00	-27.58



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Operation Band :LTE B7 Temp./Humi. :21 deg_C / 62 RH

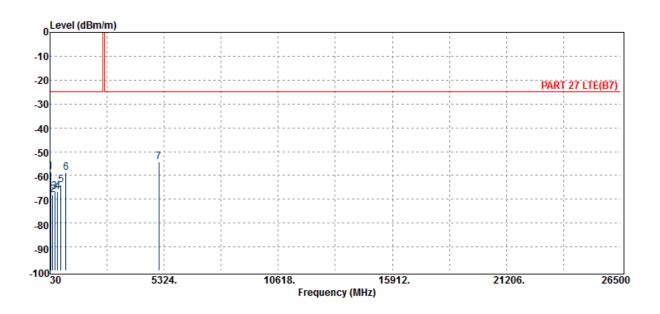
Fundamental Frequen-:2535.0 MHz :Tin Engineer

15M 16QAM **RB** Mode: **Operation Mode** :Tx CH MID

1,74

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
53.28	S	-58.51	-49.16	-8.29	-1.06	-25.00	-33.51
153.19	S	-68.00	-66.76	0.20	-1.44	-25.00	-43.00
241.46	S	-66.93	-70.65	5.46	-1.74	-25.00	-41.93
390.84	S	-66.67	-70.32	5.98	-2.33	-25.00	-41.67
529.55	S	-63.90	-67.26	5.85	-2.49	-25.00	-38.90
769.14	S	-58.88	-61.32	5.39	-2.96	-25.00	-33.88
5070.00	Н	-54.29	-59.16	12.73	-7.86	-25.00	-29.29



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Operation Band :LTE B7 Temp./Humi. :21 deg_C / 62 RH

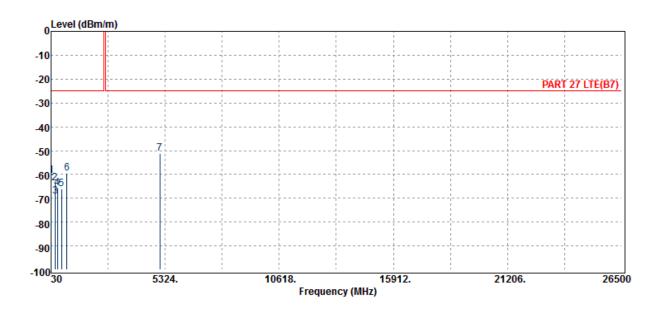
Fundamental Frequen-:2535.0 MHz :Tin Engineer

15M 16QAM **RB Operation Mode** :Tx CH MID Mode:

1,74

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-60.50	-46.91	-12.63	-0.96	-25.00	-35.50
216.24	S	-63.59	-67.45	5.55	-1.69	-25.00	-38.59
240.49	S	-69.17	-72.87	5.44	-1.74	-25.00	-44.17
335.55	S	-65.81	-69.83	5.95	-1.93	-25.00	-40.81
516.94	S	-66.10	-69.65	5.91	-2.37	-25.00	-41.10
769.14	S	-59.40	-61.84	5.39	-2.96	-25.00	-34.40
5070.00	Н	-51.09	-55.96	12.73	-7.86	-25.00	-26.09



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Operation Band :LTE B7 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-

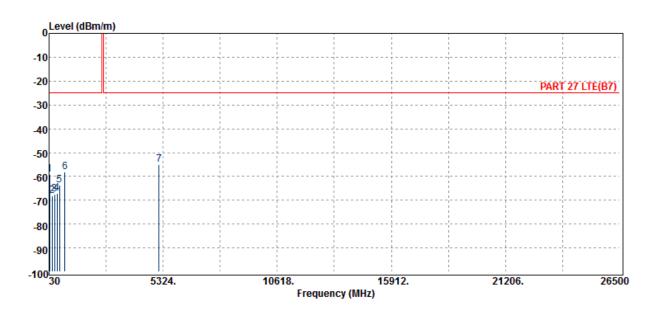
:2562.5 MHz :Tin Engineer

15M 16QAM **RB Operation Mode** :Tx CH HIGH Mode:

1,74

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
52.31	S	-59.17	-49.56	-8.55	-1.05	-25.00	-34.17
178.41	S	-68.14	-69.34	2.76	-1.55	-25.00	-43.14
288.99	S	-67.51	-71.17	5.58	-1.92	-25.00	-42.51
396.66	S	-67.16	-70.77	5.97	-2.36	-25.00	-42.16
512.09	S	-63.50	-67.09	5.94	-2.35	-25.00	-38.50
773.99	S	-58.07	-60.56	5.41	-2.93	-25.00	-33.07
5125.00	Н	-54.96	-59.81	12.75	-7.91	-25.00	-29.96

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Operation Band :LTE B7 Temp./Humi. :21 deg_C / 62 RH

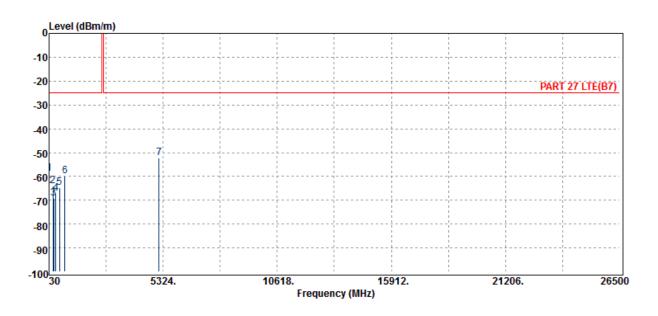
Fundamental Frequen-:2562.5 MHz :Tin Engineer

15M 16QAM **RB Operation Mode** :Tx CH HIGH Mode:

1,74

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-58.71	-45.12	-12.63	-0.96	-25.00	-33.71
220.12	S	-64.14	-67.91	5.48	-1.70	-25.00	-39.14
243.40	S	-69.11	-72.85	5.49	-1.75	-25.00	-44.11
340.40	S	-67.07	-71.07	5.97	-1.97	-25.00	-42.07
513.06	S	-64.80	-68.38	5.94	-2.35	-25.00	-39.80
772.05	S	-59.82	-62.28	5.40	-2.94	-25.00	-34.82
5125.00	Н	-52.17	-57.02	12.75	-7.91	-25.00	-27.17



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Radiated Spurious Emission Measurement Result: LTE-Band 12 (The Worst Case)

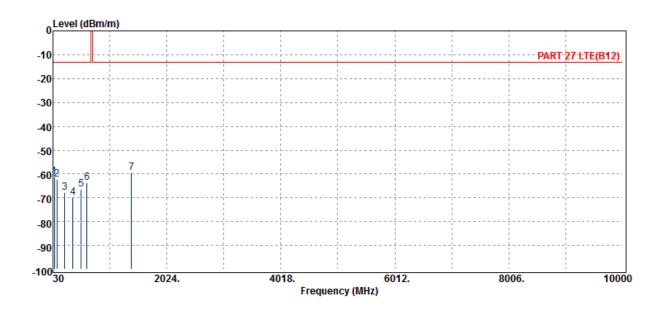
Operation Band Temp./Humi. :LTE B12 :21 deg_C / 62 RH

Fundamental Frequen-:700.5 MHz Engineer :Tin

:Tx CH LOW **Operation Mode** Mode: 3M QPSK RB 1,14

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
55.22	S	-59.07	-50.23	-7.78	-1.06	-13	-46.07
94.99	S	-60.06	-59.94	1.11	-1.23	-13	-47.06
236.61	S	-65.54	-69.19	5.38	-1.73	-13	-52.54
379.20	S	-67.76	-71.49	5.99	-2.26	-13	-54.76
522.76	S	-64.20	-67.66	5.88	-2.42	-13	-51.20
621.70	S	-61.44	-64.26	5.35	-2.53	-13	-48.44
1401.00	Н	-57.44	-63.98	10.43	-3.89	-13	-44.44



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Operation Band :LTE B12 Temp./Humi. :21 deg_C / 62 RH

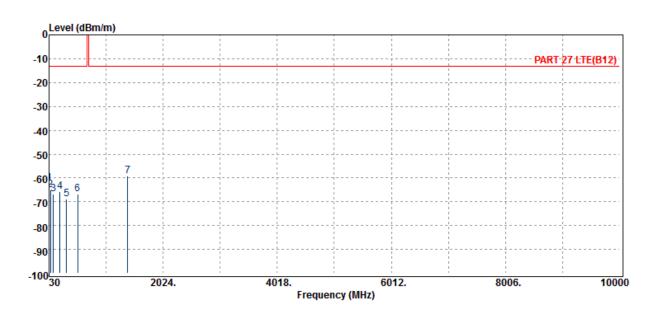
Fundamental Frequen-:700.5 MHz Engineer :Tin

:E2 Plane

:Tx CH LOW Mode: **Operation Mode** 3M QPSK RB 1,14

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-60.28	-46.69	-12.63	-0.96	-13	-47.28
54.25	S	-62.78	-53.69	-8.03	-1.06	-13	-49.78
102.75	S	-64.63	-63.65	0.28	-1.26	-13	-51.63
219.15	S	-63.65	-67.44	5.49	-1.70	-13	-50.65
337.49	S	-66.77	-70.77	5.95	-1.95	-13	-53.77
529.55	S	-64.71	-68.07	5.85	-2.49	-13	-51.71
1401.00	Н	-57.03	-63.57	10.43	-3.89	-13	-44.03



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Operation Band :LTE B12 Temp./Humi. :21 deg_C / 62 RH

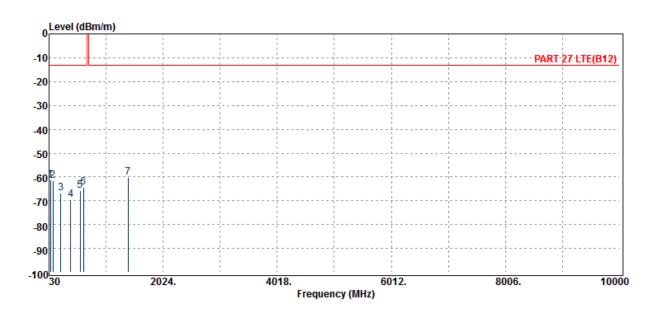
Fundamental Frequen-:707.5 MHz Engineer :Tin

:E2 Plane

:Tx CH MID Mode: **Operation Mode** 3M QPSK RB 1,14

> Antenna :VERTICAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
55.22	S	-59.03	-50.19	-7.78	-1.06	-13	-46.03
94.99	S	-59.59	-59.47	1.11	-1.23	-13	-46.59
236.61	S	-64.79	-68.44	5.38	-1.73	-13	-51.79
408.30	S	-67.33	-70.86	5.94	-2.41	-13	-54.33
578.05	S	-63.58	-66.34	5.54	-2.78	-13	-50.58
634.31	S	-62.25	-65.12	5.32	-2.45	-13	-49.25
1415.00	Н	-58.08	-64.66	10.49	-3.91	-13	-45.08



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Operation Band :LTE B12 Temp./Humi. :21 deg_C / 62 RH

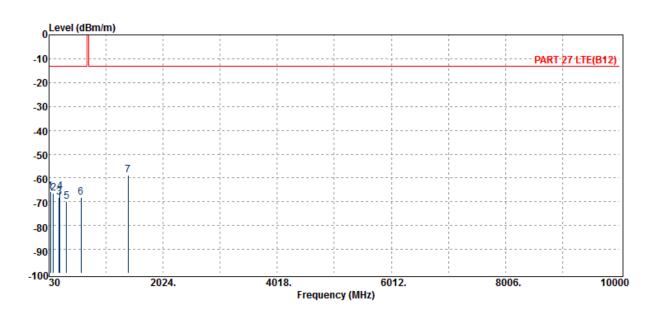
Fundamental Frequen-:707.5 MHz Engineer :Tin

:E2 Plane

:Tx CH MID Mode: 3M QPSK RB 1,14 **Operation Mode**

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-63.66	-54.57	-8.03	-1.06	-13	-50.66
102.75	S	-64.21	-63.23	0.28	-1.26	-13	-51.21
204.60	S	-65.92	-69.72	5.45	-1.65	-13	-52.92
222.06	S	-63.46	-67.18	5.43	-1.71	-13	-50.46
338.46	S	-67.64	-71.65	5.96	-1.95	-13	-54.64
585.81	S	-65.95	-68.65	5.49	-2.79	-13	-52.95
1415.00	Н	-56.63	-63.21	10.49	-3.91	-13	-43.63

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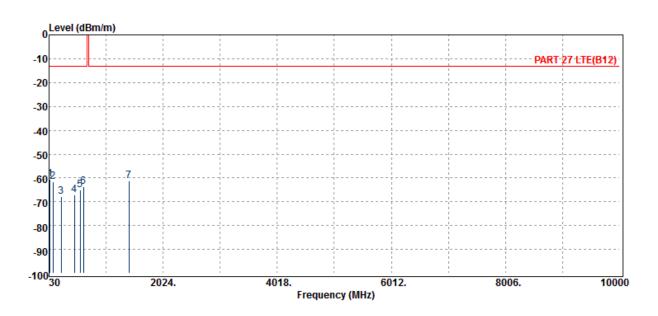
Operation Band :LTE B12 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:714.5 MHz Engineer :Tin

:Tx CH HIGH Mode: **Operation Mode** 3M QPSK RB 1,14

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
51.34	S	-58.31	-48.44	-8.82	-1.05	-13	-45.31
94.99	S	-59.47	-59.35	1.11	-1.23	-13	-46.47
240.49	S	-65.51	-69.21	5.44	-1.74	-13	-52.51
473.29	S	-64.98	-68.65	5.90	-2.23	-13	-51.98
578.05	S	-62.86	-65.62	5.54	-2.78	-13	-49.86
634.31	S	-61.66	-64.53	5.32	-2.45	-13	-48.66
1429.00	Н	-58.95	-65.56	10.55	-3.94	-13	-45.95



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Operation Band :LTE B12 Temp./Humi. :21 deg_C / 62 RH

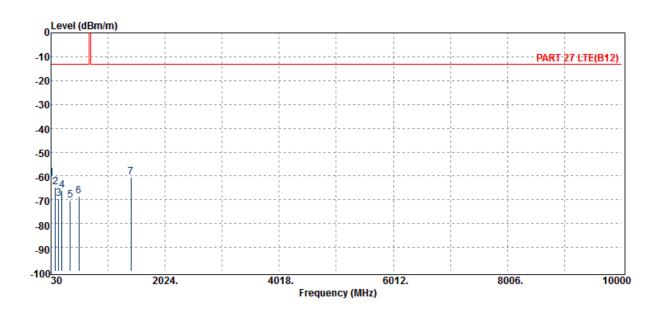
Fundamental Frequen-:714.5 MHz Engineer :Tin

:E2 Plane

Mode: 3M QPSK RB 1,14 **Operation Mode** :Tx CH HIGH

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-58.93	-45.34	-12.63	-0.96	-13	-45.93
103.72	S	-62.52	-61.46	0.20	-1.26	-13	-49.52
160.95	S	-67.51	-66.61	0.58	-1.48	-13	-54.51
219.15	S	-64.05	-67.84	5.49	-1.70	-13	-51.05
362.71	S	-68.15	-72.00	6.00	-2.15	-13	-55.15
517.91	S	-66.32	-69.86	5.91	-2.37	-13	-53.32
1429.00	Н	-58.34	-64.95	10.55	-3.94	-13	-45.34

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Radiated Spurious Emission Measurement Result: LTE-Band 17 (The Worst Case)

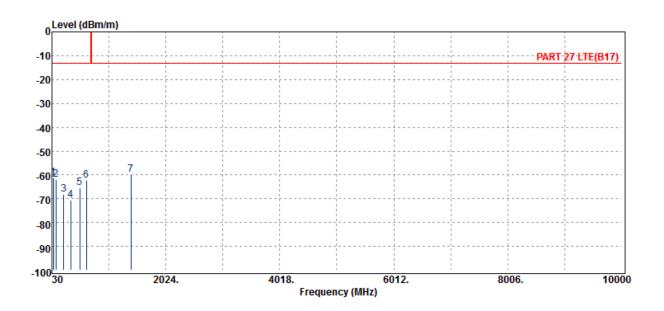
Operation Band Temp./Humi. :LTE B17 :21 deg_C / 62 RH

Fundamental Frequen-:706.5 MHz Engineer :Tin

Operation Mode :Tx CH LOW Mode: 5M 16QAM RB 1,24

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
53.28	S	-59.00	-49.65	-8.29	-1.06	-13	-46.00
94.99	S	-59.83	-59.71	1.11	-1.23	-13	-46.83
233.70	S	-66.04	-69.64	5.33	-1.73	-13	-53.04
356.89	S	-68.45	-72.36	6.01	-2.10	-13	-55.45
519.85	S	-63.40	-66.91	5.90	-2.39	-13	-50.40
633.34	S	-60.26	-63.12	5.32	-2.46	-13	-47.26
1413.00	Н	-57.78	-64.35	10.48	-3.91	-13	-44.78



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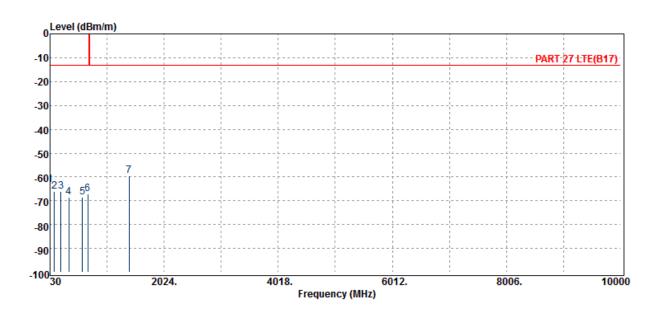
Operation Band :LTE B17 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:706.5 MHz Engineer :Tin

:Tx CH LOW Mode: **Operation Mode** 5M 16QAM RB 1,24

> Antenna :HORIZONTAL Measurement :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-61.21	-47.62	-12.63	-0.96	-13	-48.21
104.69	S	-63.92	-62.76	0.11	-1.27	-13	-50.92
222.06	S	-63.78	-67.50	5.43	-1.71	-13	-50.78
357.86	S	-66.53	-70.42	6.00	-2.11	-13	-53.53
594.54	S	-66.30	-68.95	5.43	-2.78	-13	-53.30
686.69	S	-64.92	-67.43	5.25	-2.74	-13	-51.92
1413.00	Н	-57.31	-63.88	10.48	-3.91	-13	-44.31



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Operation Band :LTE B17 Temp./Humi. :21 deg_C / 62 RH

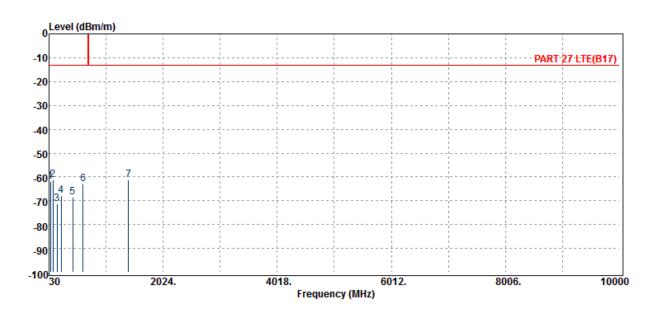
Fundamental Frequen-:710.0 MHz Engineer :Tin

:E2 Plane

:Tx CH MID Mode: **Operation Mode** 5M 16QAM RB 1,24

Antenna :VERTICAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
54.25	S	-59.95	-50.86	-8.03	-1.06	-13	-46.95
95.96	S	-59.13	-58.89	0.99	-1.23	-13	-46.13
172.59	S	-69.15	-69.33	1.71	-1.53	-13	-56.15
245.34	S	-65.61	-69.38	5.52	-1.75	-13	-52.61
447.10	S	-66.22	-69.83	5.80	-2.19	-13	-53.22
626.55	S	-60.88	-63.73	5.34	-2.49	-13	-47.88
1420.00	Н	-59.14	-65.73	10.51	-3.92	-13	-46.14

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Operation Band :LTE B17 Temp./Humi. :21 deg_C / 62 RH

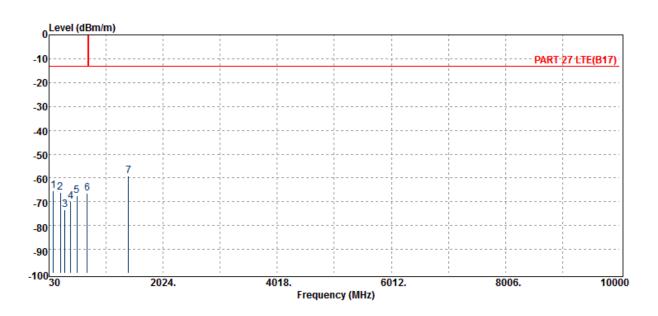
Fundamental Frequen-:710.0 MHz Engineer :Tin

:E2 Plane

:Tx CH MID Mode: **Operation Mode** 5M 16QAM RB 1,24

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
104.69	S	-63.18	-62.02	0.11	-1.27	-13	-50.18
231.76	S	-63.79	-67.35	5.29	-1.73	-13	-50.79
308.39	S	-71.24	-75.12	5.82	-1.94	-13	-58.24
410.24	S	-67.86	-71.39	5.93	-2.40	-13	-54.86
519.85	S	-65.38	-68.89	5.90	-2.39	-13	-52.38
696.39	S	-64.16	-66.49	5.24	-2.91	-13	-51.16
1420.00	Н	-56.99	-63.58	10.51	-3.92	-13	-43.99

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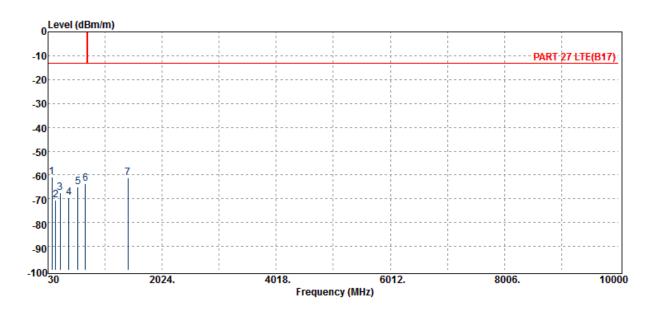
Operation Band :LTE B17 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:713.5 MHz Engineer :Tin

Mode: **Operation Mode** :Tx CH HIGH 5M 16QAM RB 1,24

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
95.96	S	-58.80	-58.56	0.99	-1.23	-13	-45.80
165.80	S	-68.42	-67.86	0.94	-1.50	-13	-55.42
243.40	S	-65.38	-69.12	5.49	-1.75	-13	-52.38
395.69	S	-67.48	-71.10	5.97	-2.35	-13	-54.48
555.74	S	-62.81	-65.76	5.70	-2.75	-13	-49.81
684.75	S	-61.58	-64.13	5.25	-2.70	-13	-48.58
1427.00	Н	-59.05	-65.66	10.54	-3.93	-13	-46.05



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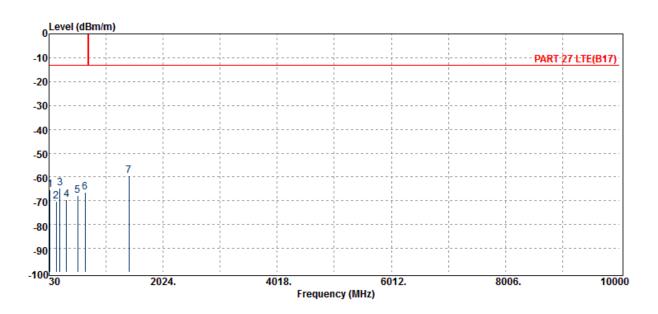
Operation Band :LTE B17 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:713.5 MHz Engineer :Tin

Mode: **Operation Mode** :Tx CH HIGH 5M 16QAM RB 1,24

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
46.49	S	-63.35	-52.43	-9.89	-1.03	-13	-50.35
154.16	S	-68.24	-67.04	0.25	-1.45	-13	-55.24
224.00	S	-62.60	-66.28	5.39	-1.71	-13	-49.60
335.55	S	-67.27	-71.29	5.95	-1.93	-13	-54.27
531.49	S	-65.63	-68.96	5.84	-2.51	-13	-52.63
660.50	S	-64.38	-67.28	5.28	-2.38	-13	-51.38
1427.00	Н	-57.53	-64.14	10.54	-3.93	-13	-44.53



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Radiated Spurious Emission Measurement Result: LTE-Band 38 (The Worst Case)

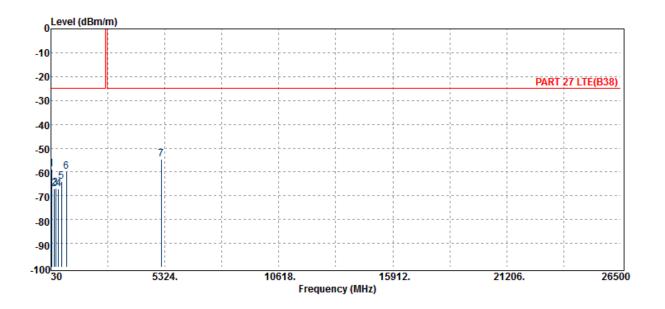
Operation Band Temp./Humi. :LTE B38 :22 deg_C / 61 RH

Fundamental Frequen-:2575 MHz Engineer :Tin

Mode **Operation Mode** :Tx CH LOW :10M QPSK RB 1,49

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
53.28	S	-58.93	-49.58	-8.29	-1.06	-25.00	-33.93
177.44	S	-67.11	-68.15	2.59	-1.55	-25.00	-42.11
245.34	S	-66.80	-70.56	5.52	-1.75	-25.00	-41.80
377.26	S	-67.07	-70.82	5.99	-2.24	-25.00	-42.07
527.61	S	-63.94	-67.32	5.86	-2.47	-25.00	-38.94
749.74	S	-60.01	-62.26	5.33	-3.08	-25.00	-35.01
5150.00	Н	-54.81	-59.63	12.76	-7.94	-25.00	-29.81



EUT Pol.

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Operation Band :LTE B38 Temp./Humi. :22 deg_C / 61 RH

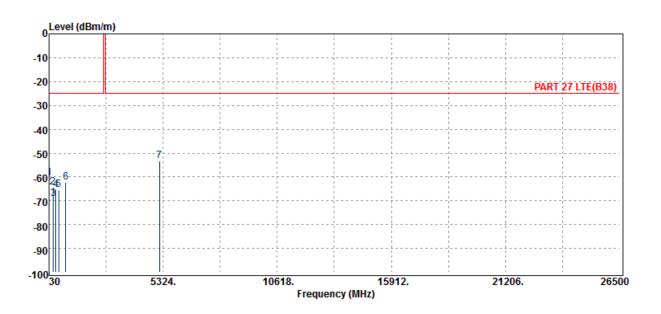
Fundamental Frequen-:2575 MHz Engineer :Tin

:H Plane

:Tx CH LOW Mode **Operation Mode** :10M QPSK RB 1,49

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-60.68	-47.10	-12.63	-0.96	-25.00	-35.68
217.21	S	-64.38	-68.21	5.53	-1.69	-25.00	-39.38
239.52	S	-69.25	-72.93	5.43	-1.74	-25.00	-44.25
337.49	S	-65.51	-69.52	5.95	-1.95	-25.00	-40.51
485.90	S	-65.34	-69.04	5.95	-2.26	-25.00	-40.34
800.18	S	-62.39	-64.98	5.49	-2.90	-25.00	-37.39
5150.00	Н	-53.17	-57.99	12.76	-7.94	-25.00	-28.17



EUT Pol.

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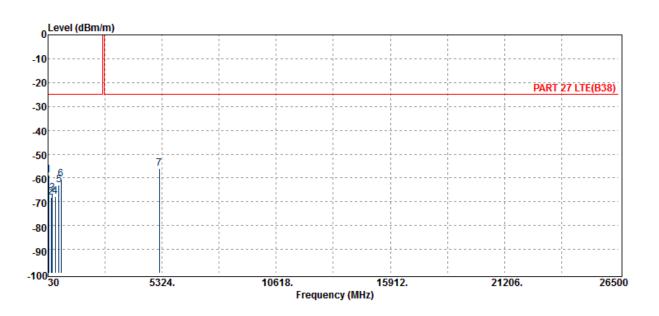
Operation Band :LTE B38 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:2595.0 MHz Engineer :Tin

Mode **Operation Mode** :Tx CH MID :10M QPSK RB 1,49

> Antenna :VERTICAL Measurement :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
55.22	S	-58.95	-50.10	-7.78	-1.06	-25.00	-33.95
173.56	S	-68.13	-68.48	1.89	-1.53	-25.00	-43.13
239.52	S	-66.34	-70.03	5.43	-1.74	-25.00	-41.34
362.71	S	-67.67	-71.53	6.00	-2.15	-25.00	-42.67
529.55	S	-62.87	-66.22	5.85	-2.49	-25.00	-37.87
631.40	S	-60.44	-63.30	5.33	-2.46	-25.00	-35.44
5190.00	Н	-55.95	-60.78	12.78	-7.95	-25.00	-30.95

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Operation Band :LTE B38 Temp./Humi.

Fundamental Frequen-:2595.0 MHz

Operation Mode :Tx CH MID

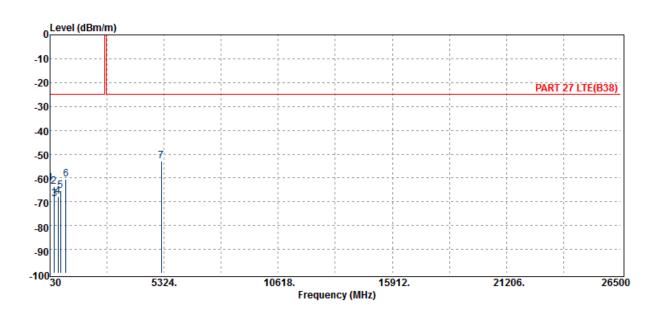
EUT Pol. :H Plane :22 deg_C / 61 RH

Engineer :Tin

Mode :10M QPSK RB 1,49

Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-62.12	-48.54	-12.63	-0.96	-25.00	-37.12
219.15	S	-63.51	-67.31	5.49	-1.70	-25.00	-38.51
240.49	S	-68.78	-72.48	5.44	-1.74	-25.00	-43.78
395.69	S	-67.70	-71.32	5.97	-2.35	-25.00	-42.70
516.94	S	-65.25	-68.80	5.91	-2.37	-25.00	-40.25
773.99	S	-60.50	-62.98	5.41	-2.93	-25.00	-35.50
5190.00	Н	-52.94	-57.77	12.78	-7.95	-25.00	-27.94

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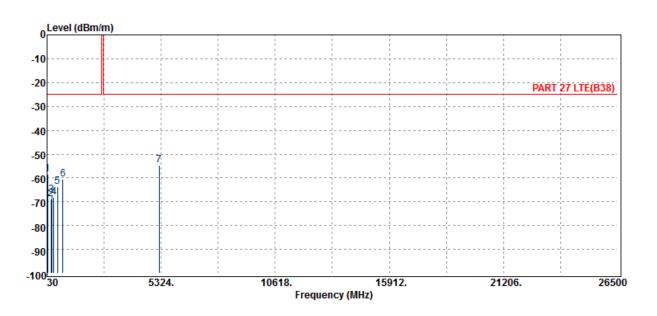
Operation Band :LTE B38 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:2615 MHz Engineer :Tin

Mode **Operation Mode** :Tx CH HIGH :10M QPSK RB 1,49

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
52.31	S	-58.47	-48.87	-8.55	-1.05	-25.00	-33.47
216.24	S	-68.82	-72.68	5.55	-1.69	-25.00	-43.82
249.22	S	-67.11	-70.93	5.58	-1.76	-25.00	-42.11
350.10	S	-68.03	-72.00	6.01	-2.05	-25.00	-43.03
527.61	S	-63.79	-67.18	5.86	-2.47	-25.00	-38.79
772.05	S	-60.53	-62.99	5.40	-2.94	-25.00	-35.53
5230.00	Н	-54.64	-59.44	12.79	-8.00	-25.00	-29.64



EUT Pol.

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Operation Band :LTE B38 Temp./Humi. :22 deg_C / 61 RH

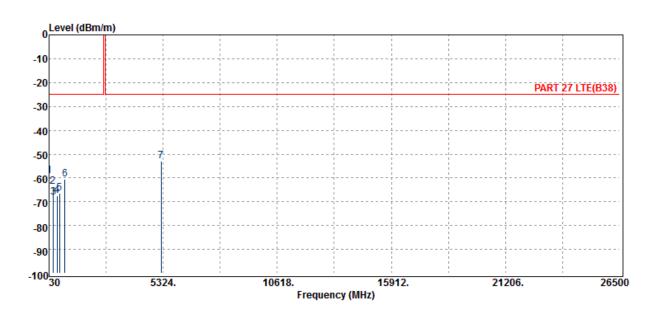
Fundamental Frequen-:2615 MHz Engineer :Tin

:H Plane

Mode **Operation Mode** :Tx CH HIGH :10M QPSK RB 1,49

> Antenna :HORIZONTAL Measurement

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-59.28	-45.69	-12.63	-0.96	-25.00	-34.28
219.15	S	-63.72	-67.52	5.49	-1.70	-25.00	-38.72
240.49	S	-68.04	-71.75	5.44	-1.74	-25.00	-43.04
406.36	S	-67.53	-71.06	5.95	-2.42	-25.00	-42.53
513.06	S	-66.56	-70.14	5.94	-2.35	-25.00	-41.56
769.14	S	-60.39	-62.83	5.39	-2.96	-25.00	-35.39
5230.00	Н	-53.06	-57.86	12.79	-8.00	-25.00	-28.06



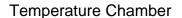
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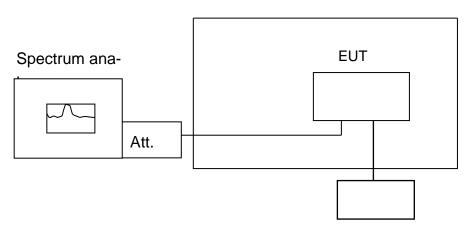
11. FREQUENCY STABILITY MEASUREMENT

11.1. Standard Applicable:

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.







Variable DC Power Supply

Note: Measurement setup for testing on Antenna connector

11.3. Measurement Procedure:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Set chamber temperature to 25°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

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11.4. Measurement Equipment Used:

Conducted Emission (measured at antenna port) Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
EXA Spectrum Ana- lyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018		
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018		
Coaxial Cable	HU- BER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018		
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018		
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018		
DC Power Supply	Agilent	E3640A	MY52410006	11/21/2016	11/20/2017		
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018		
Radio Communication Analyzer	R&S	CMU200	102189	02/10/2017	02/09/2018		
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018		
Radio Communication Analyzer	R&S	CMU200	102189	02/10/2017	02/09/2018		

11.5. Measurement Result:

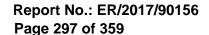
Reference Frequency: GPRS 850 Mid Channel 836.6 MHz						
	Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)		
Vdc	Temp.(℃)	(MHz)	Della (FIZ)	LIIIII (112)		
	FREQUENCY EI	RROR vs. VOL	TAGE			
4.4	20	836600017	6	2091		
3.85	20	836600011	0	2091		
3.5	20	836600002	-9	2091		
2.5 (End point)	20	836600026	15	2091		
	FREQUENCY	ERROR vs. Te	mp.			
3.85	50	836600014	3	2091		
3.85	40	836600006	-5	2091		
3.85	30	836600007	-4	2091		
3.85	20	836000110	0	2091		
3.85	10	836600003	-8	2091		
3.85	0	836600016	5	2091		
3.85	-10	836600014	3	2091		
3.85	-20	836600015	4	2091		
3.85	-30	836600006	-5	2091		

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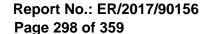
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Reference Frequency: GPRS 1900 Mid Channel 1880 MHz					
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temp.(℃)	(MHz)		LIIIII (112)	
F	REQUENCY EI	RROR vs. VOL	TAGE		
4.4	20	1879999995	1	4700	
3.85	20	1879999994	0	4700	
3.5	20	1880000005	11	4700	
2.5 (End point)	20	1880000003	9	4700	
	FREQUENCY	ERROR vs. Te	mp.		
3.85	50	1880000006	12	4700	
3.85	40	1879999998	4	4700	
3.85	30	1880000006	12	4700	
3.85	20	1879999994	0	4700	
3.85	10	1879999989	-5	4700	
3.85	0	1880000015	21	4700	
3.85	-10	1880000022	28	4700	
3.85	-20	1880000014	20	4700	
3.85	-30	1880000006	12	4700	

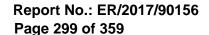
Reference Frequency: WCDMA II Mid Channel 1880 MHz					
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temp.(℃)	(MHz)	, ,	LIIIII (112)	
F	REQUENCY E	RROR vs. VOL	TAGE		
4.4	20	1879999994	-1	4700	
3.85	20	1879999995	0	4700	
3.5	20	1880000002	7	4700	
2.5 (End point)	20	1879999994	-1	4700	
	FREQUENCY	ERROR vs. Te	mp.		
3.85	50	1879999989	3	4700	
3.85	40	1879999996	17	4700	
3.85	30	1880000002	-3	4700	
3.85	20	1879999995	0	4700	
3.85	10	1880000006	21	4700	
3.85	0	1880000008	-6	4700	
3.85	-10	1879999989	20	4700	
3.85	-20	1880000022	22	4700	
3.85	-30	1880000004	4	4700	





Reference Frequency: WCDMA IV Mid Channel 1732.6 MHz						
Limit: +/- 2.5 ppm						
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)		
Vdc	Temp.(℃)	(MHz)	, ,	LIIIII (112)		
F	REQUENCY E	RROR vs. VOL	TAGE			
4.4	20	1732600000	6	4331		
3.85	20	1732599994	0	4331		
3.5	20	1732600006	12	4331		
2.5 (End point)	20	1732599995	1	4331		
	FREQUENCY	ERROR vs. Te	mp.			
3.85	50	1732600006	12	4331		
3.85	40	1732600005	11	4331		
3.85	30	1732599997	3	4331		
3.85	20	1732599994	0	4331		
3.85	10	1732599995	1	4331		
3.85	0	1732600006	12	4331		
3.85	-10	1732599995	1	4331		
3.85	-20	1732600012	18	4331		
3.85	-30	1732600001	7	4331		

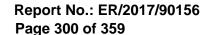
Reference Frequency: WCDMA V Mid Channel 836.6 MHz					
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temp.(℃)	(MHz)	,	LIIIII (112)	
F	REQUENCY E	RROR vs. VOL	TAGE		
4.4	20	83659999	-2	2091	
3.85	20	836599992	0	2091	
3.5	20	836600006	14	2091	
2.5 (End point)	20	836600003	11	2091	
	FREQUENCY	ERROR vs. Te	mp.		
3.85	50	836600006	14	2091	
3.85	40	836600005	13	2091	
3.85	30	836600004	12	2091	
3.85	20	836599992	0	2091	
3.85	10	836600002	10	2091	
3.85	0	836600006	14	2091	
3.85	-10	836600005	13	2091	
3.85	-20	836600008	16	2091	
3.85	-30	836600003	11	2091	





Reference Freq.:		TE B2 Mid Channel	1880	MHz 20M QPSK CH 18900
Power Supply Vdc	Temp.	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Fre	eq. ERROR vs. V	OLTAGE	
4.4	25	1880.00003	67.7	4700
3.85	25	1879.99996	0	4700
3.5	25	1880.00002	56.7	4700
2.5 (End Point)	25	1880.00002	63.7	4700
	F	req. ERROR vs.	Temp.	
3.85	-30	1879.99996	-57.4	4700
3.85	-20	1879.99997	-46.1	4700
3.85	-10	1880.00002	3	4700
3.85	0	1879.99998	-39	4700
3.85	10	1879.99996	-50.7	4700
3.85	20	1880.00002	0	4700
3.85	30	1879.99997	-42.9	4700
3.85	40	1880.00002	8	4700
3.85	50	1879.99998	-32.6	4700

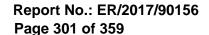
Reference Freq.:	LTE B4 Mid Channel		1732.5	MHz 20M QPSK CH 20175
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Free	q. ERROR vs. V(OLTAGE	
4.4	25	1732.49996	-10.1	4331
3.85	25	1732.49997	0	4331
3.5	25	1732.50000	33.1	4331
2.5 (End Point)	25	1732.49997	-0.2	4331
	Fi	req. ERROR vs.	Temp.	
3.85	-30	1732.49996	-56.7	4331
3.85	-20	1732.50004	15	4331
3.85	-10	1732.49997	-52.9	4331
3.85	0	1732.50000	-16.8	4331
3.85	10	1732.49997	-54.4	4331
3.85	20	1732.50002	0	4331
3.85	30	1732.49997	-55.9	4331
3.85	40	1732.50001	-9.1	4331
3.85	50	1732.50002	-5.7	4331





Reference Freq.:	LTE B5 Mid Channel		836.5	MHz 10M QPSK CH 20525
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Fre	eq. ERROR vs. V	OLTAGE	
4.4	25	836.49996	-52.5	2091
3.85	25	836.50001	0	2091
3.5	25	836.49725	-2763	2091
2.5 (End Point)	25	836.49997	-41.6	2091
	F	req. ERROR vs.	Temp.	
3.85	-30	836.49996	-8.7	2091
3.85	-20	836.49997	-1.8	2091
3.85	-10	836.50002	53.9	2091
3.85	0	836.49997	7	2091
3.85	10	836.50002	49.6	2091
3.85	20	836.49997	0	2091
3.85	30	836.49996	-4.2	2091
3.85	40	836.49997	3.5	2091
3.85	50	836.50000	33.9	2091

Reference Freq.:	LTE B7 Mid Channel		2535	MHz 10M QPSK CH 21100
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Free	q. ERROR vs. V(OLTAGE	
4.4	25	2534.99997	-29.83	6338
3.85	25	2535.00000	0	6338
3.5	25	2535.00001	3.82	6338
2.5 (End Point)	25	2535.00001	6.27	6338
	Fi	req. ERROR vs.	Temp.	
3.85	-30	2535.00001	29.5	6338
3.85	-20	2535.00001	30.1	6338
3.85	-10	2534.99999	5.3	6338
3.85	0	2534.99998	0.5	6338
3.85	10	2535.00001	22.7	6338
3.85	20	2534.99998	0	6338
3.85	30	2534.99999	4.3	6338
3.85	40	2534.99998	8.0	6338
3.85	50	2535.00000	16.07	6338





Reference Freq.:	LTE B12 Mid Channel		707.5	MHz 10M QPSK CH 23095
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Fre	eq. ERROR vs. V	OLTAGI	Ε
4.4	25	707.50001	-6.7	1769
3.85	25	707.50001	0	1769
3.5	25	707.50000	-9.2	1769
2.5 (End Point)	25	707.49998	-27.7	1769
	F	req. ERROR vs.	Temp.	
3.85	-30	707.49999	-21.1	1769
3.85	-20	707.50000	-6.4	1769
3.85	-10	707.49999	-16.2	1769
3.85	0	707.50000	-12.5	1769
3.85	10	707.50001	-2.1	1769
3.85	20	707.50001	0	1769
3.85	30	707.50000	-2.9	1769
3.85	40	707.50000	-11.3	1769
3.85	50	707.50000	-9.8	1769

Reference Freq.:	LTE B17 Mid Channel		710	MHz 10M QPSK CH 23790
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Free	q. ERROR vs. V(OLTAGE	
4.4	25	710.00000	36.9	1775
3.85	25	709.99997	0	1775
3.5	25	710.00001	44.6	1775
2.5 (End Point)	25	709.99997	4.9	1775
	Fi	req. ERROR vs.	Temp.	
3.85	-30	709.99997	-34.5	1775
3.85	-20	709.99997	-34.8	1775
3.85	-10	710.00001	2.1	1775
3.85	0	709.99998	-27.9	1775
3.85	10	709.99996	-42.1	1775
3.85	20	710.00001	0	1775
3.85	30	710.00000	-0.9	1775
3.85	40	709.99998	-22.5	1775
3.85	50	709.99998	-22.8	1775



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Reference Freq.:	LTE B38 Mid Channel		2595	MHz 10M QPSK CH 38000
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Free	q. ERROR vs. V	OLTAGE	
4.4	25	2594.99999	-18.7	6488
3.85	25	2595.00001	0	6488
3.5	25	2594.99998	-24.9	6488
2.5 (End Point)	25	2594.99998	-23.2	6488
	Fi	req. ERROR vs.	Temp.	
3.85	-30	2595.00002	54.7	6488
3.85	-20	2595.00002	50	6488
3.85	-10	2594.99997	4.8	6488
3.85	0	2595.00001	37.4	6488
3.85	10	2594.99997	0.4	6488
3.85	20	2594.99997	0	6488
3.85	30	2595.00001	37.06	6488
3.85	40	2594.99998	9.9	6488
3.85	50	2595.00001	43.6	6488



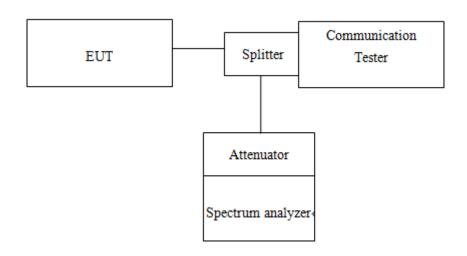
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12. PEAK TO AVERAGE RATIO

12.1. Standard Applicable

The peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

12.2. Test SET-UP



12.3. Measurement Procedure

- 1. KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly:
- 2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth; & internal =1ms
- 3. Set the number of counts to a value that stabilizes the measured CCDF curve.

12.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site								
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.			
TYPE		NUMBER	NUMBER	CAL.				
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018			
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018			
Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018			
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018			
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018			
DC Power Supply	Agilent	E3640A	MY52410006	11/21/2016	11/20/2017			
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018			
Radio Communication Analyzer	R&S	CMU200	102189	02/10/2017	02/09/2018			
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018			

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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12.5. Measurement Result

Tabular Results:

Eroa		Peak-to	-Average Ra	rtio (dB)
Freq. (MHz)	CH	GSM	GPRS	EDGE
(IVII IZ)		850	850	850
824.2	128	8.94	8.89	11.58
836.6	190	9.68	10.24	11.62
848.8	251	9.22	9.89	11.81

From		Peak-to	-Average Ra	rtio (dB)
Freq. (MHz)	CH	GSM	GPRS	EDGE
(IVII IZ)		1900	1900	1900
1850.2	512	9.51	7.97	11.73
1880	661	9.08	9.28	11.16
1909.8	810	8.87	9.17	11.58

Eroa		Peak-to	-Average Ra	ntio (dB)
Freq. (MHz)	CH	WCDMA	HSDPA	HSUPA
(IVITIZ)		I	I	II
1852.4	9262	2.85	3.61	3.38
1880	9400	3.00	3.69	3.76
1907.6	9538	2.87	3.51	3.54

Erog		Peak-to	Peak-to-Average Ratio (dB)		
Freq. (MHz)	CH	WCDMA	HSDPA	HSUPA	
(IVIITZ)		IV	IV	IV	
1712.4	1312	3.33	4.27	3.95	
1732.6	1413	3.29	4.05	4.02	
1752.6	1513	3.33	3.92	3.92	

From		Peak-to	Peak-to-Average Ratio (dB)		
Freq. (MHz)	CH	WCDMA	HSDPA	HSUPA	
(IVITZ)		V	V	V	
826.4	4132	3.07	3.93	3.87	
836.6	4183	3.03	4.01	4.18	
846.6	4233	2.91	3.87	3.95	

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LTE BAND 2									
Chan	nel band	lwidth: 1.4N	ИHz	Chann	el bandv	vidth: 3MHz	7		
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-Average			
(MHz)	CII	16QAM	Limit	(MHz)	CH	16QAM	Limit		
1850.7	18607	6.35	13	1851.5	18615	6.25	13		
1880.0	18900	6.61	13	1880.0	18900	6.56	13		
1909.3	19193	6.06	13	1908.5	19185	6.20	13		

			LTE	BAND 2			
Cha	nnel ban	dwidth: 5M	Hz	Channe	el bandw	idth: 10MH	Z
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-Average	
(MHz)	Сп	16QAM	Limit	(MHz)	СП	16QAM	Limit
1852.5	18625	6.19	13	1855.0	18650	6.01	13
1880.0	18900	6.50	13	1880.0	18900	6.34	13
1907.5	19175	6.22	13	1905.0	19150	6.20	13

LTE BAND 2									
Char	inel band	dwidth: 15M	1Hz	Channe	el bandw	idth: 20MH	Z		
Freq.	СН	Peak-to-A	verage	Freq.	Freq. CH		c-to-Average		
(MHz)	CII	16QAM	Limit	(MHz)	CH	16QAM	Limit		
1857.5	18675	6.20	13	1860.0	18700	6.59	13		
1880.0	18900	6.37	13	1880.0	18900	6.72	13		
1902.5	19125	6.41	13	1900.0	19100	6.76	13		



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	LTE BAND 4										
Chan	nel band	lwidth: 1.4N	ИHz	Chann	Channel bandwidth: 3MHz						
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-A	verage				
(MHz)	CII	16QAM	Limit	(MHz)	CH	16QAM	Limit				
1710.7	19957	6.10	13	1711.5	19965	6.18	13				
1732.5	20175	6.09	13	1732.5	20175	6.12	13				
1754.3	20393	6.13	13	1753.5	20385	6.17	13				

LTE BAND 4								
Cha	nnel ban	dwidth: 5M	Hz	Chann	el bandw	idth: 10MH	Z	
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-A	werage	
(MHz)	СП	16QAM	Limit	(MHz)	Сп	16QAM	Limit	
1712.5	19957	6.05	13	1715.0	20000	5.98	13	
1732.5	20175	6.01	13	1732.5	20175	6.02	13	
1752.5	20375	6.16	13	1750.0	20350	6.12	13	

LTE BAND 4									
Chan	nel band	dwidth: 15M	1Hz	Channe	el bandw	idth: 20MH	Z		
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-A	verage		
(MHz)	CII	16QAM	Limit	(MHz)	CH	16QAM	Limit		
1717.5	20025	6.13	13	1720.0	20050	6.61	13		
1732.5	20175	6.18	13	1732.5	20175	6.58	13		
1747.5	20325	6.14	13	1745.0	20300	6.59	13		

			LTE	BAND 5			
Chan	nel band	width: 1.4N	ЛHz	Chann	iel bandw	vidth: 3MHz	<u>7</u>
Freq.	СН	Doti	o O	Freq.	СН	Dati	Ŭ
(MHz)	СП	16QAM	Limit	(MHz)	Сп	16QAM	Limit
824.7	20407	6.16	13	825.5	20415	6.16	13
836.5	20525	6.15	13	836.5	20525	6.11	13
848.3	20643	6.15	13	847.5	20635	6.15	13

LTE BAND 5								
Chai	nnel ban	dwidth: 5M	Hz	Channe	el bandw	idth: 10MH	Z	
Freq.	СН	Peak-to-Average		Freq.	СН	Peak-to-A	verage	
(MHz)	СП	16QAM	Limit	(MHz)	СП	16QAM	Limit	
826.5	20425	6.05	13	829.0	20450	6.12	13	
836.5	20525	6.10	13	836.5	20525	6.06	13	
846.5	20625	5.97	13	844.0	20600	6.03	13	

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LTE BAND 7									
Cha	nnel ban	dwidth: 5M	Hz	Channe	el bandw	idth: 10MH	Z		
Freq.	Freq. Peak-to-			Freq.	СН	Peak-to-Average			
(MHz)	СН	16QAM	Limit	(MHz)	СП	16QAM	Limit		
2502.5	20775	5.64	13	2505.0	20800	5.84	13		
2535.0	21100	5.58	13	2535.0	21100	5.63	13		
2567.5	21375	5.62	13	2565.0	21350	5.88	13		

			LTE	BAND 7			
Chan	inel band	dwidth: 15N	1Hz	Chann	el bandw	idth: 20MH	Z
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-Average	
(MHz)	CII	16QAM	Limit	(MHz)	CH	16QAM	Limit
2507.5	20825	6.16	13	2510	20850	6.65	13
2535	21100	6.02	13	2535	21100	6.64	13
2562.5	21375	6.15	13	2560	21350	6.71	13

LTE BAND 17									
Cha	nnel ban	dwidth: 5M	Hz	Channe	el bandw	idth: 10MH	Z		
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-A	werage		
(MHz)	Сп	16QAM	Limit	(MHz)	СП	16QAM	Limit		
706.5	23755	6.01	13	709	23780	6.22	13		
710	23790	6.00	13	710	23790	6.03	13		
713.5	23825	6.76	13	711	23780	5.97	13		



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	LTE BAND 38										
Cha	nnel ban	dwidth: 5M	Hz	Channe	Channel bandwidth: 10MHz						
Freq.	СН	Peak-to-A	verage	Freq.	СН	Peak-to-A	werage				
(MHz)	СП	16QAM	Limit	(MHz)	СП	16QAM	Limit				
2572.5	37775	9.01	13	2575	37800	8.27	13				
2595	38000	9.05	13	2595	38000	8.66	13				
2617.5	38225	8.12	13	2615	38200	10.16	13				

LTE BAND 38							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq.	СН	Peak-to-Average		Freq.	СН	Peak-to-Average	
(MHz)		16QAM	Limit	(MHz)	СП	16QAM	Limit
2577.5	37825	7.65	13	2580.0	37850	8.77	13
2595	38000	8.29	13	2595.0	38000	8.64	13
2612.5	38175	8.52	13	2610.0	38150	9.68	13

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台灣檢驗科技股份有限公司

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GSM 850MHz LowCH128-824.2

GPRS_850MHz_LowCH128-824.2



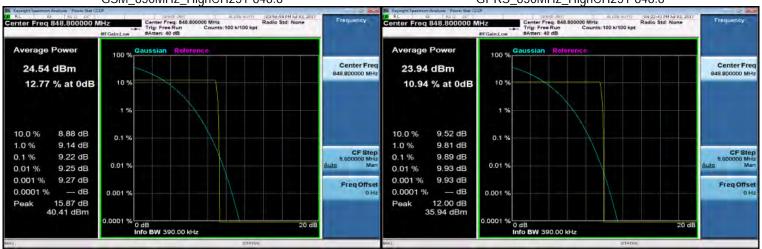
GSM 850MHz MidCH190-836.6

GPRS_850MHz_MidCH190-836.6



GSM_850MHz_HighCH251-848.8

GPRS_850MHz_HighCH251-848.8



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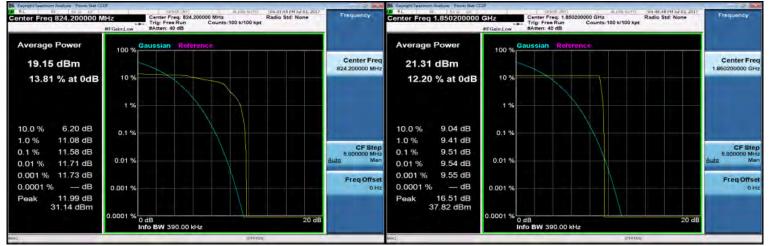
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EDGE 850MHz LowCH128-824.2

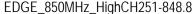
GSM 1900MHz LowCH512-1850.2



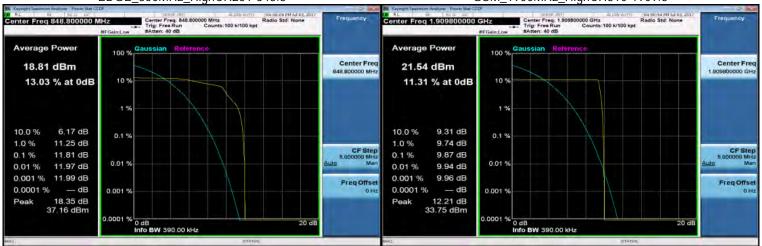
EDGE 850MHz MidCH190-836.6

GSM 1900MHz MidCH661-1880





GSM_1900MHz_HighCH810-1909.8



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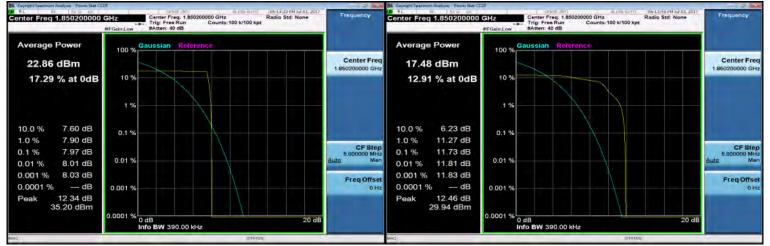
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GPRS_1900MHz_LowCH512-1850.2

EDGE 1900MHz LowCH512-1850.2

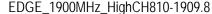


GPRS_1900MHz_MidCH661-1880

EDGE 1900MHz MidCH661-1880









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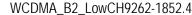
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HSDPA B2 LowCH9262-1852.4



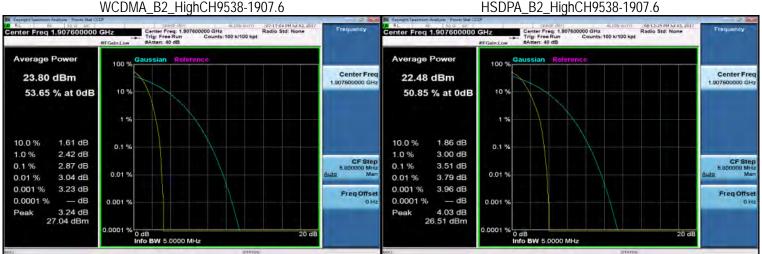
WCDMA B2 MidCH9400-1880

HSDPA B2 MidCH9400-1880





HSDPA_B2_HighCH9538-1907.6



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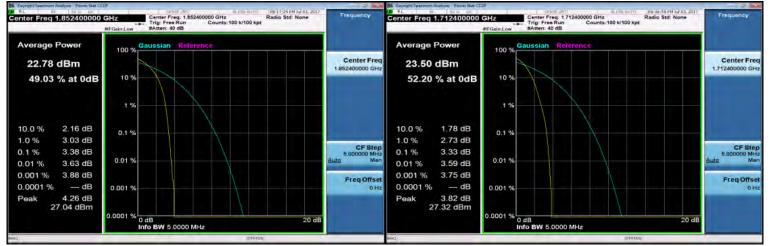
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HSUPA B2 LowCH9262-1852.4

WCDMA B4 LowCH1312-1712.4



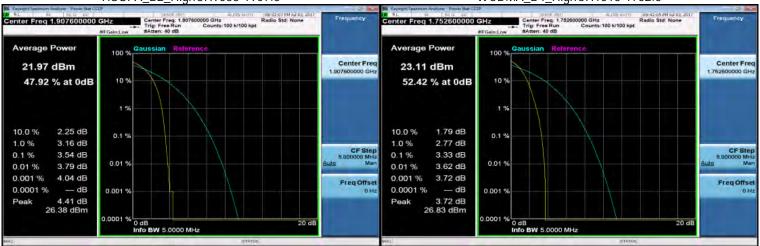
HSUPA B2 MidCH9400-1880

WCDMA B4 MidCH1413-1732.6









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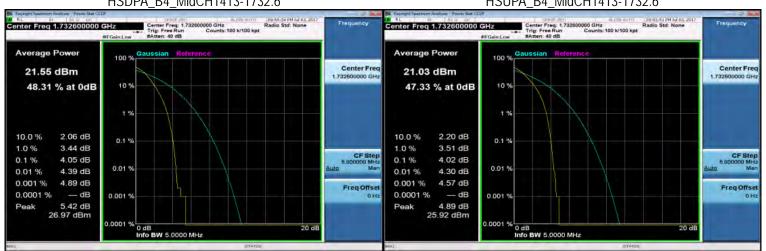
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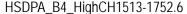
HSUPA B4 LowCH1312-1712.4



HSDPA B4 MidCH1413-1732.6

HSUPA B4 MidCH1413-1732.6









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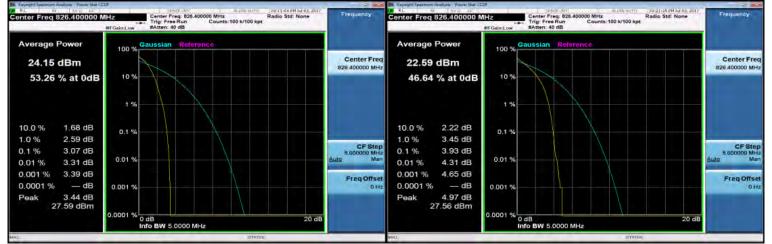
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HSDPA B5 LowCH4132-826.4



WCDMA B5 MidCH4183-836.6

HSDPA B5 MidCH4183-836.6





HSDPA B5 HighCH4233-846.6



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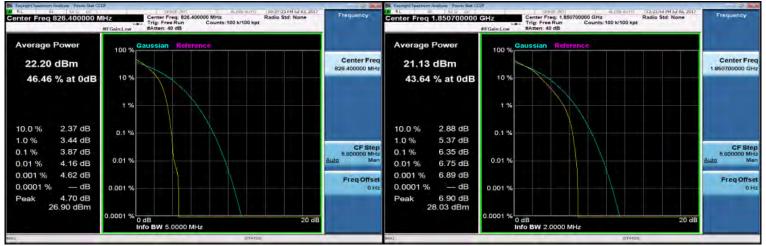
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HSUPA B5 LowCH4132-826.4

LTE Band2 1 4MHz 16QAM 6 0 LowCH18607-1850.7



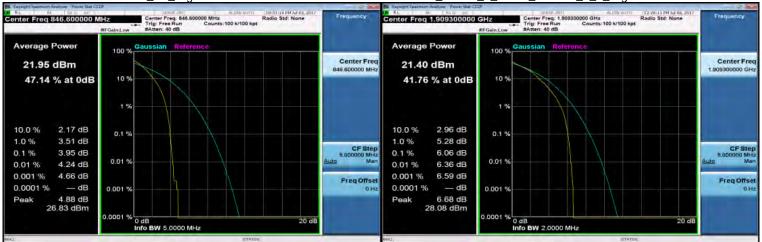
HSUPA B5 MidCH4183-836.6

LTE_Band2_1_4MHz_16QAM_6_0_MidCH18900-1880



HSUPA_B5_HighCH4233-846.6

LTE_Band2_1_4MHz_16QAM_6_0_HighCH19193-1909.3



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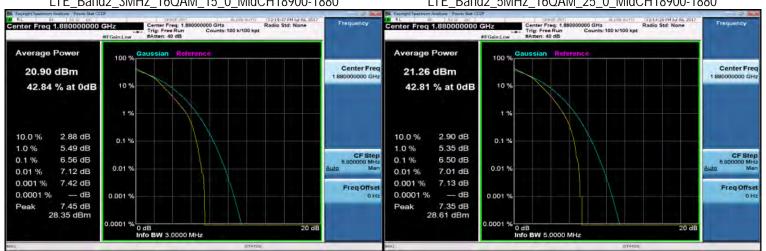
LTE Band2 3MHz 16QAM 15 0 LowCH18615-1851.5

LTE Band2 5MHz 16QAM 25 0 LowCH18625-1852.5



LTE Band2 3MHz 16QAM 15 0 MidCH18900-1880

LTE Band2 5MHz 16QAM 25 0 MidCH18900-1880





LTE_Band2_5MHz_16QAM_25_0_HighCH19175-1907.5



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LTE Band2 10MHz 16QAM 50 0 LowCH18650-1855

LTE Band2 15MHz 16QAM 75 0 LowCH18675-1857.5



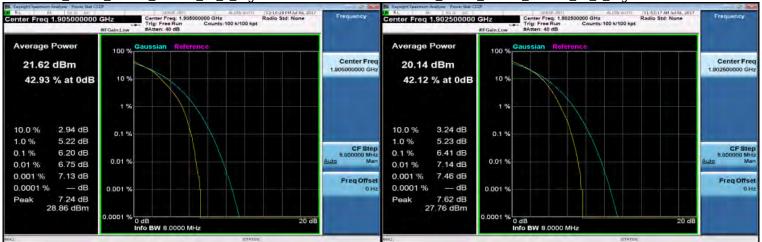
LTE Band2 10MHz 16QAM 50 0 MidCH18900-1880

LTE Band2 15MHz 16QAM 75 0 MidCH18900-1880





LTE_Band2_15MHz_16QAM_75_0_HighCH19125-1902.5



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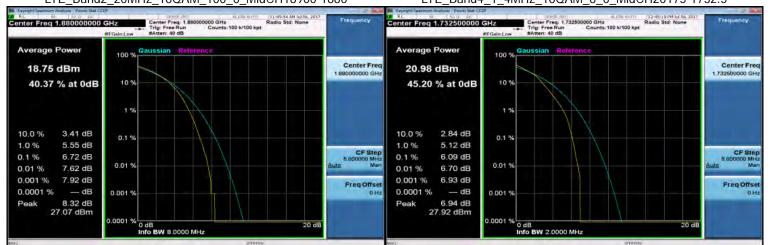
LTE Band2 20MHz 16QAM 100 0 LowCH18700-1860

LTE Band4 1 4MHz 16QAM 6 0 LowCH19957-1710.7



LTE Band2 20MHz 16QAM 100 0 MidCH18900-1880

LTE Band4 1 4MHz 16QAM 6 0 MidCH20175-1732.5



LTE Band2 20MHz 16QAM 100 0 HighCH19100-1900

LTE Band4_1_4MHz_16QAM_6_0_HighCH20393-1754.3



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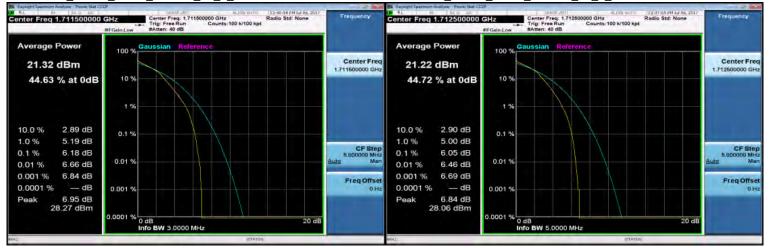
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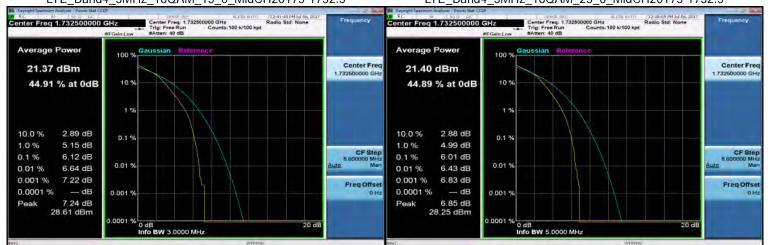
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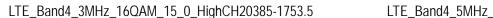
LTE Band4 5MHz 16QAM 25 0 LowCH19975-1712.5



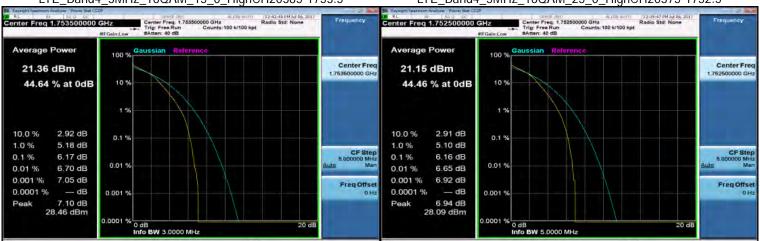
LTE Band4 3MHz 16QAM 15 0 MidCH20175-1732.5

LTE Band4 5MHz 16QAM 25 0 MidCH20175-1732.5





LTE_Band4_5MHz_16QAM_25_0_HighCH20375-1752.5



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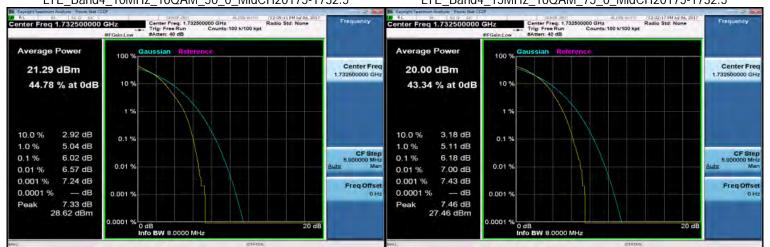
LTE Band4 10MHz 16QAM 50 0 LowCH20000-1715

LTE Band4 15MHz 16QAM 75 0 LowCH20025-1717.5



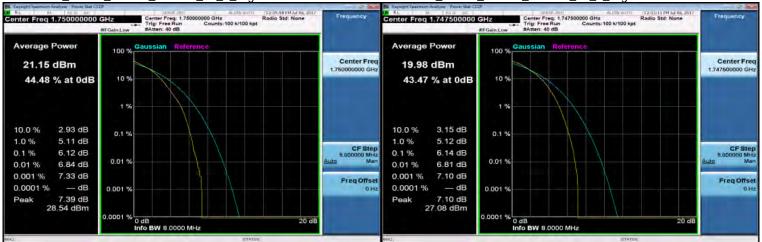
LTE Band4 10MHz 16QAM 50 0 MidCH20175-1732.5

LTE Band4 15MHz 16QAM 75 0 MidCH20175-1732.5



LTE Band4_10MHz_16QAM_50_0_HighCH20350-1750

LTE_Band4_15MHz_16QAM_75_0_HighCH20325-1747.5



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LTE_Band4_20MHz_16QAM_100_0_LowCH20050-1720

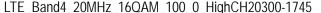
LTE Band5 1 4MHz 16QAM 6 0 LowCH20407-824.7



LTE Band4 20MHz 16QAM 100 0 MidCH20175-1732.5

LTE_Band5_1_4MHz_16QAM_6_0_MidCH20525-836.5





LTE_Band5_1_4MHz_16QAM_6_0_HighCH20643-848.3



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LTE Band5 3MHz 16QAM 15 0 LowCH20415-825.5

LTE Band5 5MHz 16QAM 25 0 LowCH20425-826.5



LTE_Band5_3MHz_16QAM_15_0_MidCH20525-836.5

LTE_Band5_5MHz_16QAM_25_0_MidCH20525-836.5



LTE_Band5_3MHz_16QAM_15_0_HighCH20635-847.5





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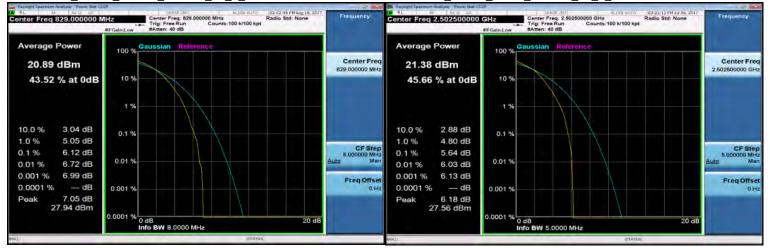
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LTE Band5 10MHz 16QAM 50 0 LowCH20450-829

LTE Band7 5MHz 16QAM 25 0 LowCH20775-2502.5



LTE_Band5_10MHz_16QAM_50_0_MidCH20525-836.5

LTE Band7 5MHz 16QAM 25 0 MidCH21100-2535



LTE_Band5_10MHz_16QAM_50_0_HighCH20600-844

LTE_Band7_5MHz_16QAM_25_0_HighCH21425-2567.5



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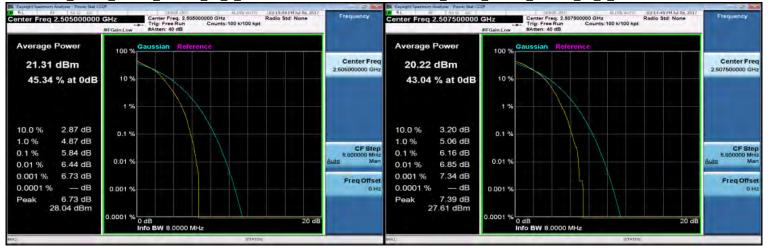
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LTE Band7 10MHz 16QAM 50 0 LowCH20800-2505

LTE Band7 15MHz 16QAM 75 0 LowCH20825-2507.5



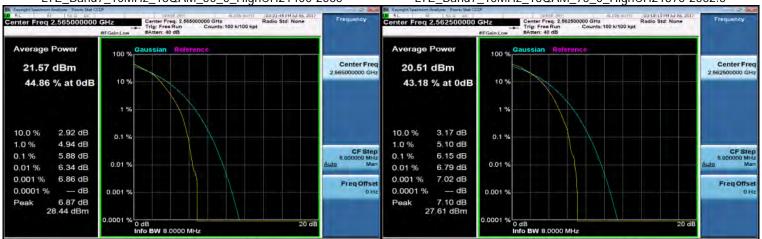
LTE Band7_10MHz_16QAM_50_0_MidCH21100-2535

LTE Band7 15MHz 16QAM 75 0 MidCH21100-2535





LTE_Band7_15MHz_16QAM_75_0_HighCH21375-2562.5



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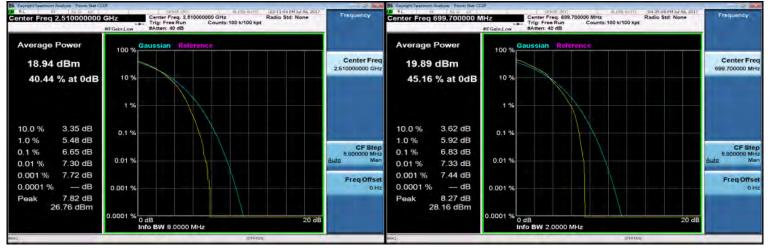
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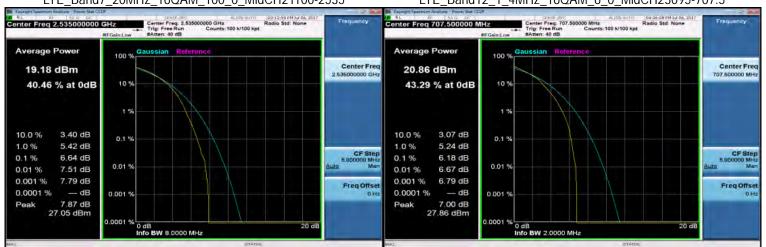


LTE Band12 1 4MHz 16QAM 6 0 LowCH23017-699.7



LTE Band7 20MHz 16QAM 100 0 MidCH21100-2535

LTE Band12 1 4MHz 16QAM 6 0 MidCH23095-707.5





LTE_Band12_1_4MHz_16QAM_6_0_HighCH23173-715.3



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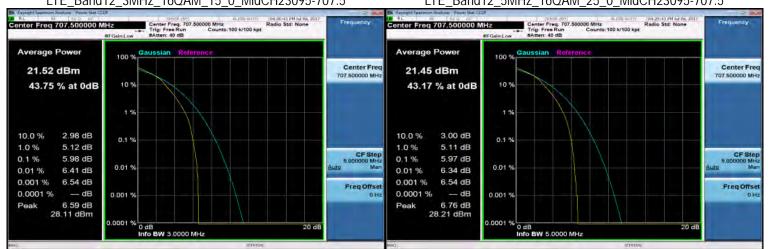
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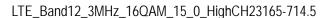
LTE Band12 5MHz 16QAM 25 0 LowCH23035-701.5



LTE Band12 3MHz 16QAM 15 0 MidCH23095-707.5

LTE_Band12_5MHz_16QAM_25_0_MidCH23095-707.5





LTE Band12 5MHz 16QAM 25 0 HighCH23155-713.5



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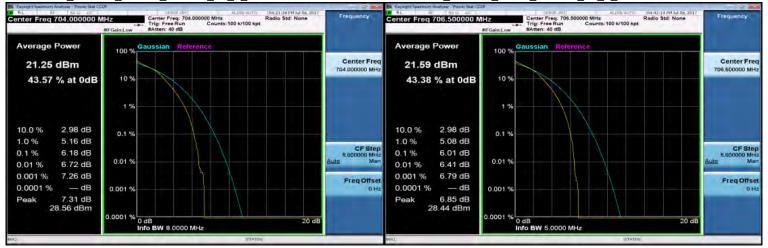
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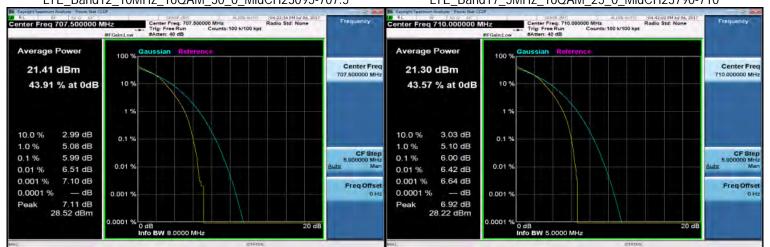
LTE Band12 10MHz 16QAM 50 0 LowCH23060-704

LTE Band17 5MHz 16QAM 25 0 LowCH23755-706.5



LTE Band12 10MHz 16QAM 50 0 MidCH23095-707.5

LTE Band17 5MHz 16QAM 25 0 MidCH23790-710



LTE Band12 10MHz 16QAM 50 0 HighCH23130-711

LTE Band17 5MHz 16QAM 25 0 HighCH23825-713.5



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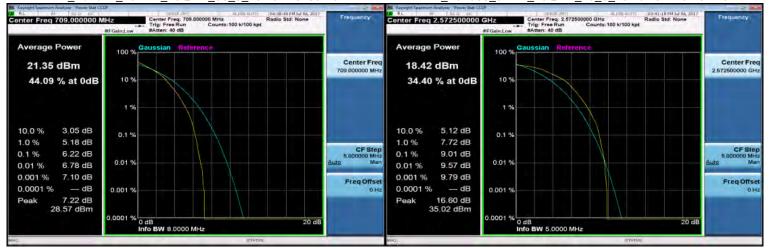
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LTE Band17_10MHz_16QAM_50_0_LowCH23780-709

LTE Band38 5MHz 16QAM 25 0 LowCH37775-2572.5



LTE Band17_10MHz_16QAM_50_0_MidCH23790-710

LTE Band38 5MHz 16QAM 25 0 MidCH38000-2595



LTE Band17 10MHz 16QAM 50 0 HighCH23800-711

LTE_Band38_5MHz_16QAM_25_0_HighCH38225-2617.5



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LTE Band38 10MHz 16QAM 50 0 LowCH37800-2575

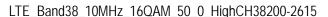
LTE Band38 15MHz 16QAM 75 0 LowCH37825-2577.5



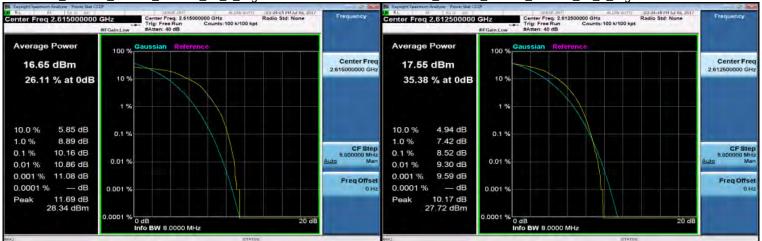
LTE Band38 10MHz 16QAM 50 0 MidCH38000-2595

LTE Band38 15MHz 16QAM 75 0 MidCH38000-2595









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LTE Band38 20MHz 16QAM 100 0 LowCH37850-2580

LTE Band38 20MHz 16QAM 100 0 HighCH38150-2610



LTE Band38 20MHz 16QAM 100 0 MidCH38000-2595



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13. RSE ASSESSMENT FOR C2PC

13.1. Standard Applicable

According to FCC §2.1053,

FCC §22.917(a), §24.238(a), §27.53(g)(h), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

FCC §27.53 (m) (4) shall not be less than 55 +10log(mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber **Equipment**

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)^{\text{Note}}$
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)^{\text{Note}}$
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 for the permitted frequency ranges for various equipment types.

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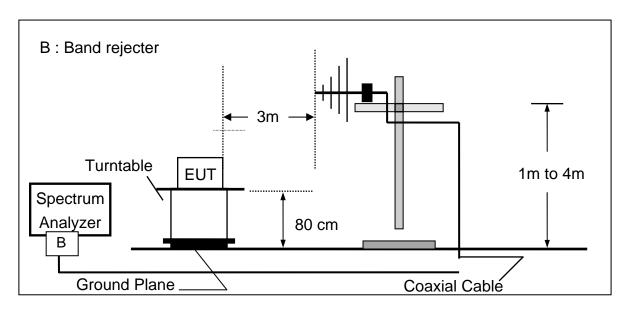
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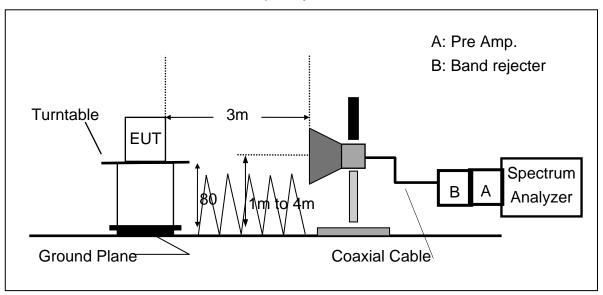
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13.2. EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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13.3. Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note: "F": denotes Fundamental Frequency.; "H": denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---": denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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13.4. Measurement Equipment Used:

ERP, I	EIRP MEASUREM	ENT EQUIPME	ENT List 966 (Chamber	
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESCI7	100760	05/11/2017	05/10/2018
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/25/2017	04/24/2018
Loop Antenna	ETS-Lindgren	6502	148045	09/19/2017	09/18/2018
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/04/2017	08/03/2018
Pre-Amplifier	Agilent	8447D	2944A07676	01/03/2017	01/02/2018
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/03/2017	01/02/2018
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R
Low Loss Cable	Huber Suhner	966_RX	9	01/05/2017	01/04/2018
3m Site NSA	SGS	966 chamber	N/A	07/01/2017	06/30/2018
Low Loss Cable	Huber Suhner	966 TX	1	01/05/2017	01/04/2018
Horn Antenna	Schwarzbeck	BBHA9170	184	12/12/2016	12/11/2017
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/05/2017	01/04/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018



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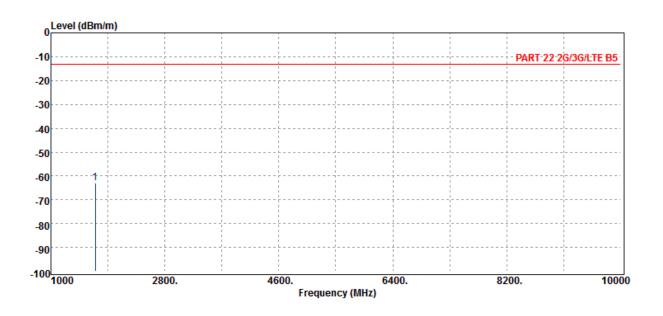
Operation Band :GPRS 850 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:848.8 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
1697.60	Н	-63.08	-66.05	7.28	-4.31	-13.00	-50.08



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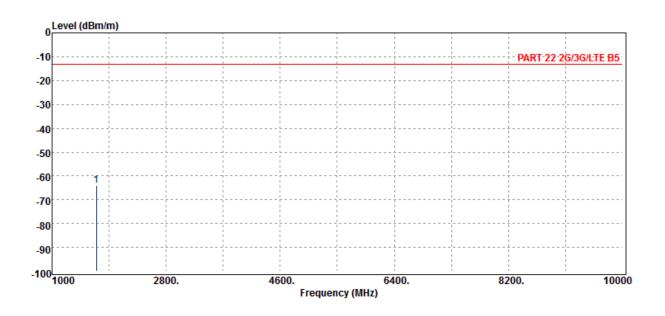
Operation Band :GPRS 850 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:848.8 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
1697.60	Н	-64.12	-67.10	7.28	-4.31	-13.00	-51.12



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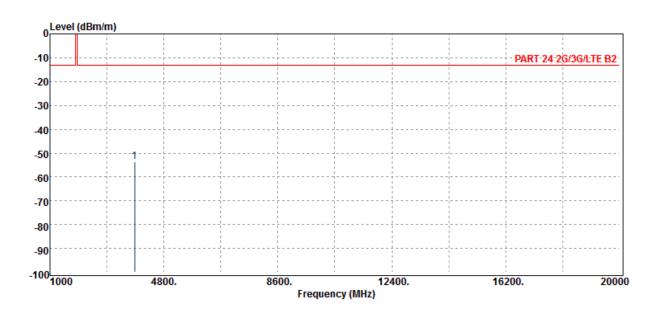
Operation Band :GPRS 1900 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1909.8 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3819.60	Н	-53.69	-59.50	12.47	-6.65	-13.00	-40.69



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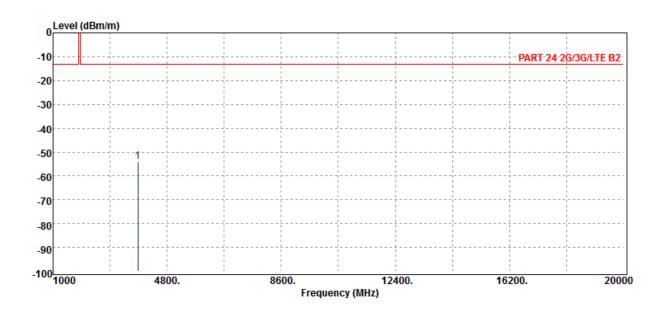
Operation Band :GPRS 1900 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1909.8 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3819.60	Н	-53.95	-59.77	12.47	-6.65	-13.00	-40.95



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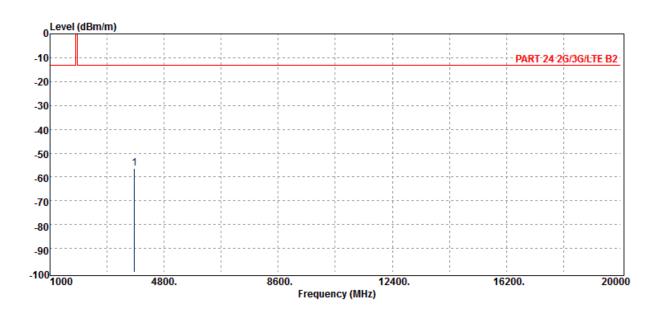
Operation Band :HSDPA B2 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1907.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3815.20	Н	-56.35	-62.18	12.46	-6.63	-13.00	-43.35



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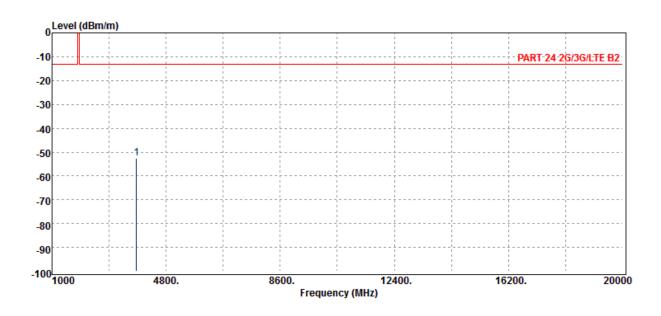
Operation Band :HSDPA B2 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1907.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3815.20	Н	-52.75	-58.58	12.46	-6.63	-13.00	-39.75



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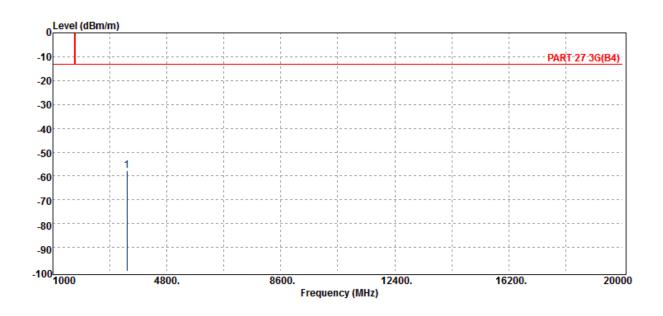
Operation Band :HSDPA B4 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1732.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3465.20	Н	-57.65	-63.75	12.34	-6.25	-13.00	-44.65



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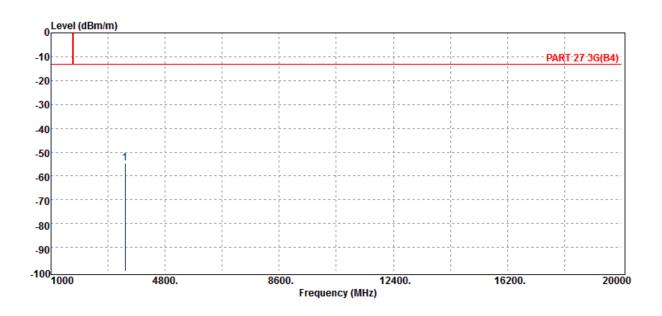
Operation Band :HSDPA B4 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:1732.6 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3465.20	Н	-54.75	-60.85	12.34	-6.25	-13.00	-41.75



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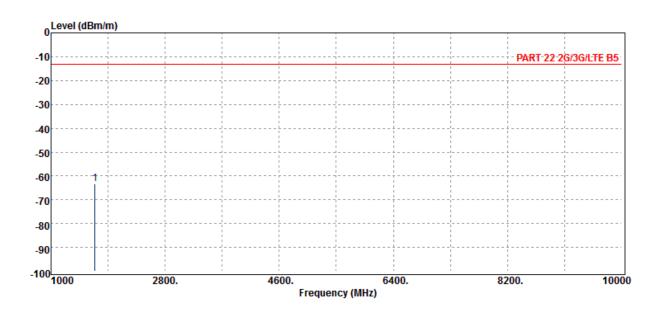
Operation Band :HSDPA B5 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:846.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
1693.20	Н	-63.34	-66.31	7.27	-4.30	-13.00	-50.34



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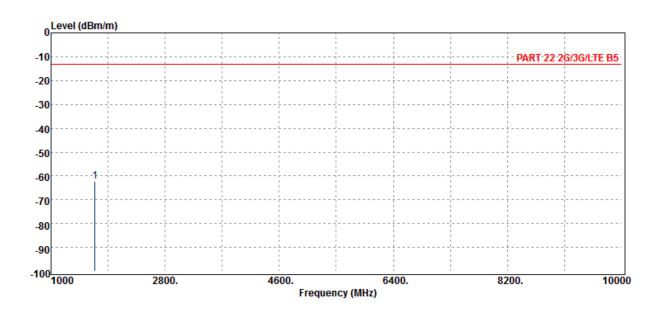
Operation Band :HSDPA B5 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:846.6 MHz :Tin Engineer

Operation Mode :Tx CH HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
1693.20	Н	-62.29	-65.25	7.27	-4.30	-13.00	-49.29

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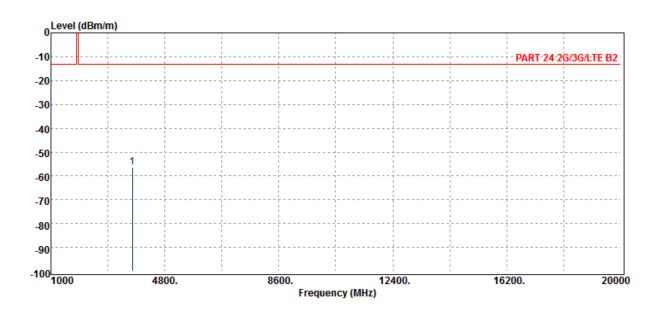
Operation Band :LTE B2 Temp./Humi. :23 deg_C / 62 RH

Fundamental Frequen-:1855.0 MHz :Tin Engineer

:Tx CH LOW **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3710.00	Н	-56.47	-62.33	12.44	-6.58	-13.00	-43.47

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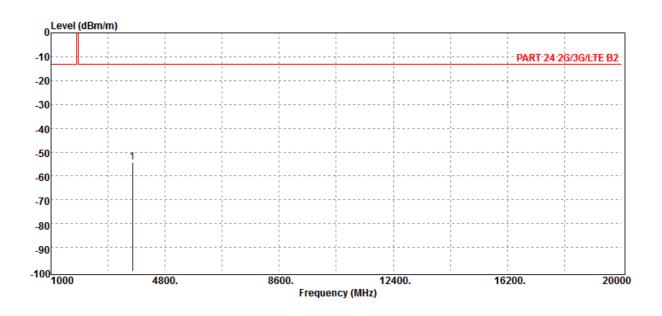
Operation Band :LTE B2 Temp./Humi. :23 deg_C / 62 RH

Fundamental Frequen-:1855.0 MHz :Tin Engineer

:Tx CH LOW **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3710.00	Н	-54.48	-60.35	12.44	-6.58	-13.00	-41.48



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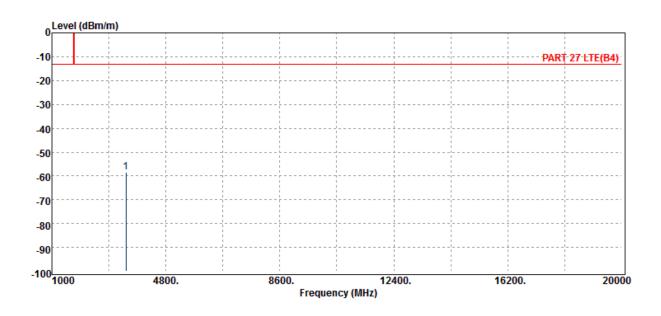
Operation Band :LTE B4 Temp./Humi. :23 deg_C / 62 RH

Fundamental Frequen-:1732.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3465.00	Н	-58.53	-64.63	12.34	-6.25	-13.00	-45.53



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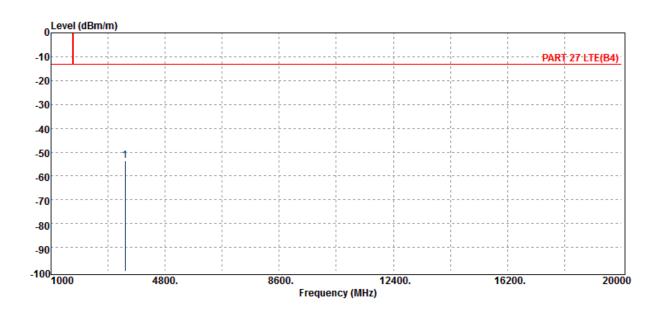
Operation Band :LTE B4 Temp./Humi. :23 deg_C / 62 RH

Fundamental Frequen-:1732.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
3465.00	Н	-53.47	-59.57	12.34	-6.25	-13.00	-40.47



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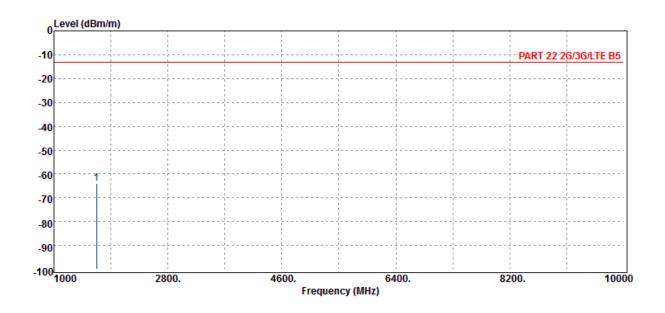
Operation Band :LTE B5 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:836.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



	Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
				Output Level	Gain	Loss		
_	MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
	1673.00	Н	-62.02	-67.08	9.35	-4.29	-13	-49.02



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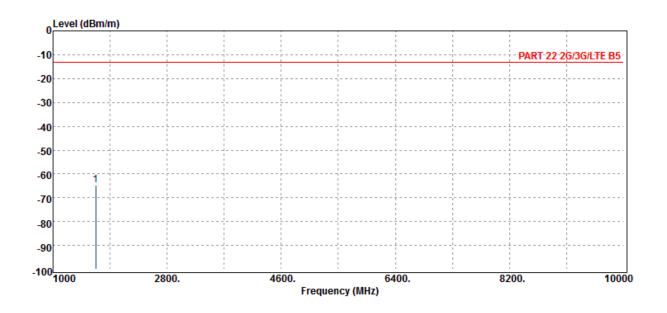
Operation Band :LTE B5 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:836.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



	Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin	
				Output Level	Gain	Loss			
_	MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
	1673.00	Н	-62.49	-67.55	9.35	-4.29	-13	-49.49	



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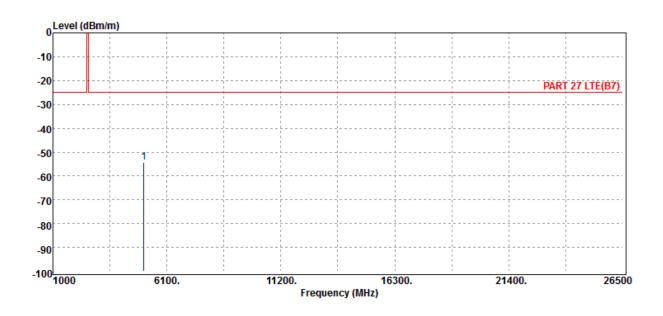
Operation Band :LTE B7 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:2535.0 MHz :Tin Engineer

Operation Mode :Tx CH MID

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
5070.00	Н	-54.18	-59.05	12.73	-7.86	-25.00	-29.18



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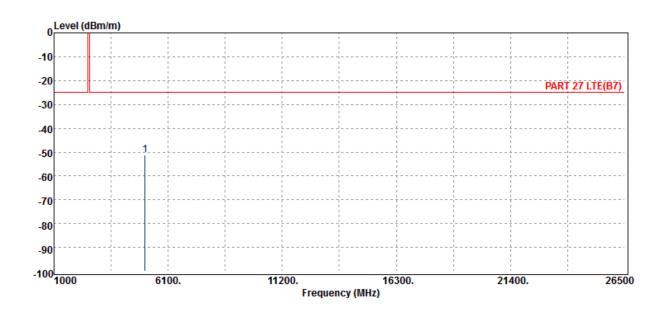
Operation Band :LTE B7 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:2535.0 MHz :Tin Engineer

Operation Mode :Tx CH MID

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
5070.00	Н	-51.34	-56.21	12.73	-7.86	-25.00	-26.34

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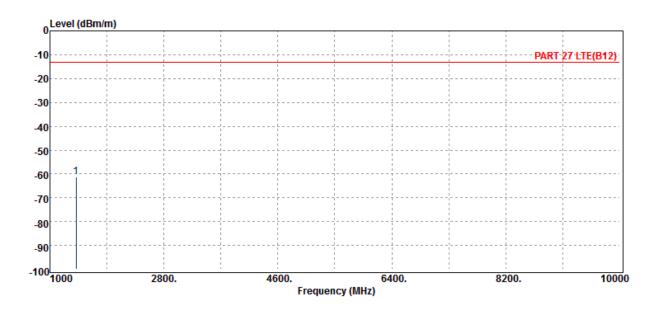
Operation Band :LTE B12 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:707.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
1415.00	Н	-59.08	-65.66	10.49	-3.91	-13	-46.08



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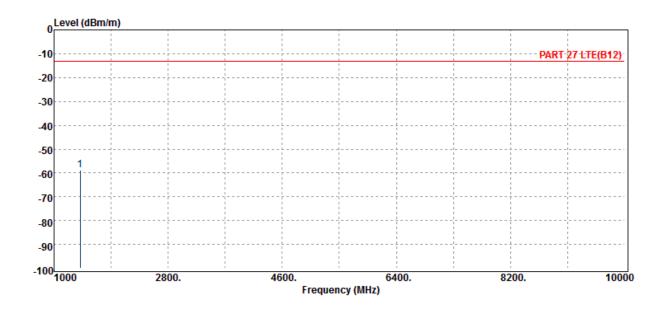
Operation Band :LTE B12 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:707.5 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
1415.00	Н	-56.84	-63.42	10.49	-3.91	-13	-43.84	

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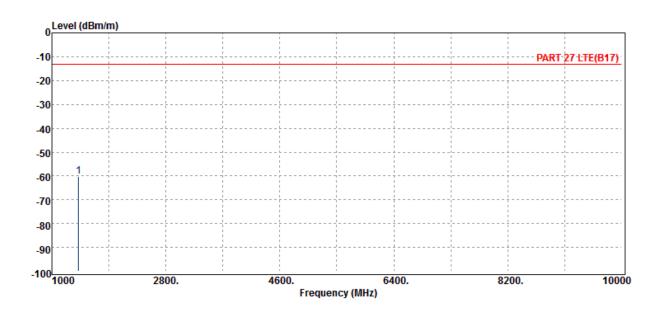
Operation Band :LTE B17 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:710.0 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
1420.00	Н	-60.05	-64.49	8.36	-3.92	-13.00	-47.05



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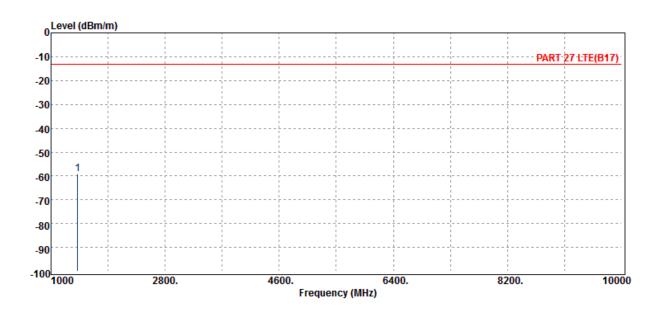
Operation Band :LTE B17 Temp./Humi. :21 deg_C / 62 RH

Fundamental Frequen-:710.0 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :HORIZONTAL Measurement EUT Pol. :E2 Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
1420.00	Н	-59.08	-63.52	8.36	-3.92	-13.00	-46.08



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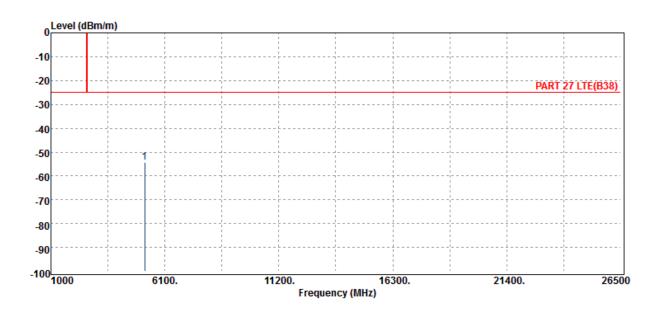
Operation Band :LTE B38 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:2595.0 MHz :Tin Engineer

:Tx CH MID **Operation Mode**

Antenna :VERTICAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
5190.00	Н	-54.41	-59.24	12.78	-7.95	-25.00	-29.41

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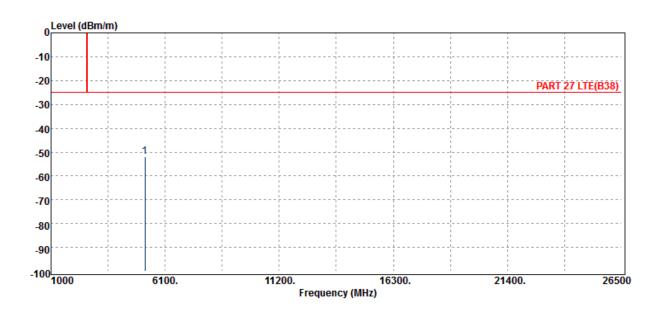
Operation Band :LTE B38 Temp./Humi. :22 deg_C / 61 RH

Fundamental Frequen-:2595.0 MHz :Tin Engineer

Operation Mode :Tx CH MID

Antenna :HORIZONTAL Measurement EUT Pol. :H Plane

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
5190.00	Н	-51.82	-56.65	12.78	-7.95	-25.00	-26.82

~ End of Report ~

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