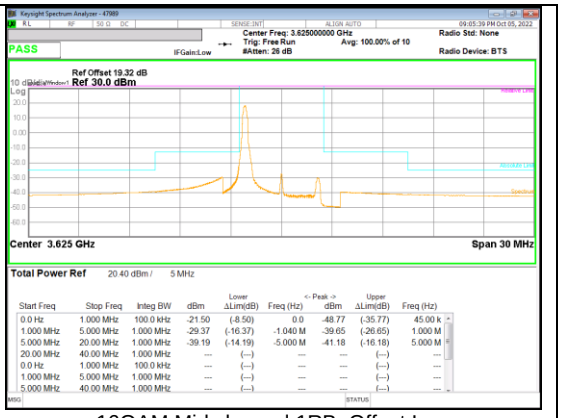
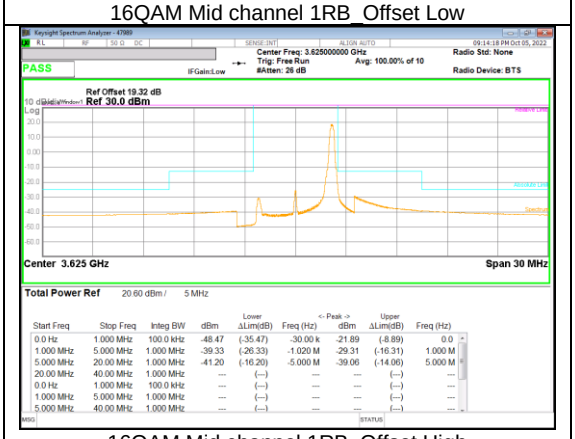
5MHz

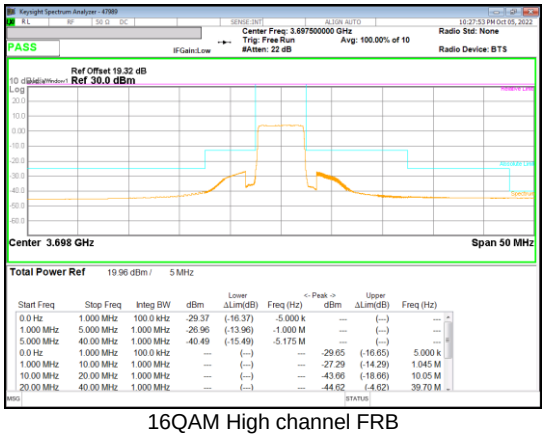
16QAM Mid channel FRB



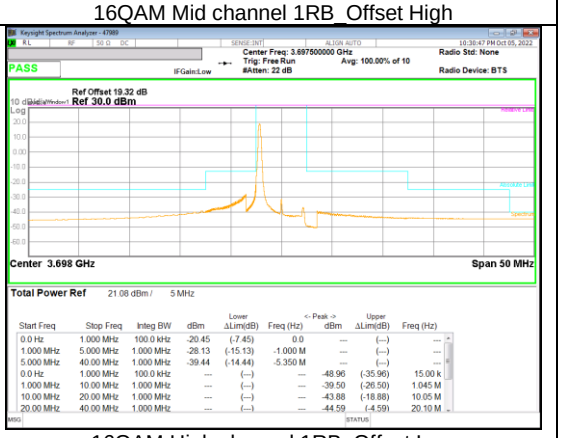
16QAM Mid channel 1RB_Offset Low



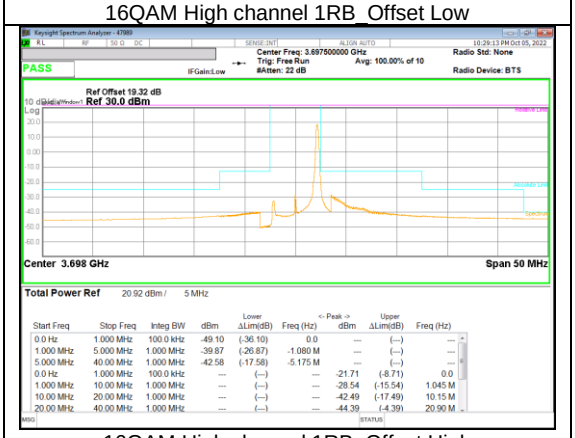
16QAM Mid channel 1RB_Offset High



16QAM High channel FRB

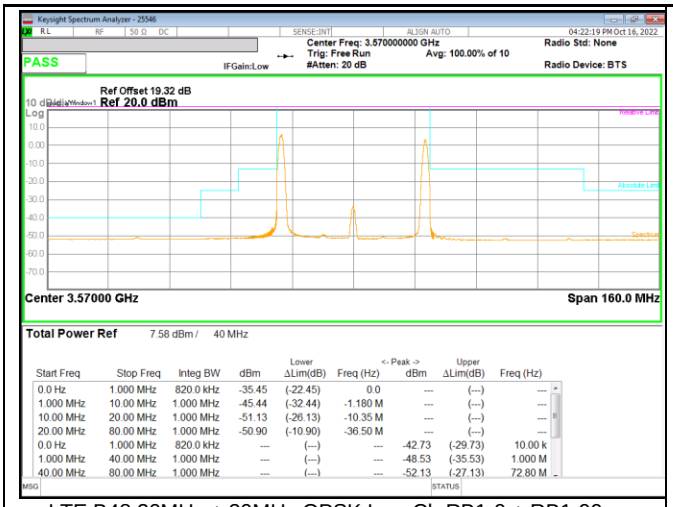


16QAM High channel 1RB_Offset Low



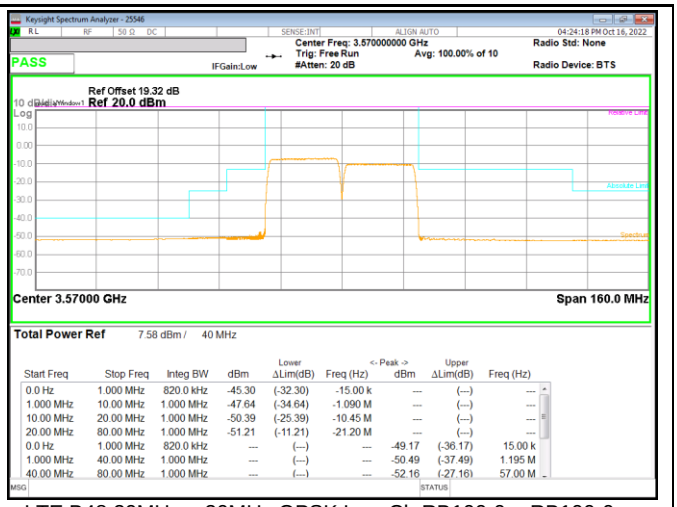
16QAM High channel 1RB_Offset High

LTE Band 48 Uplink CA



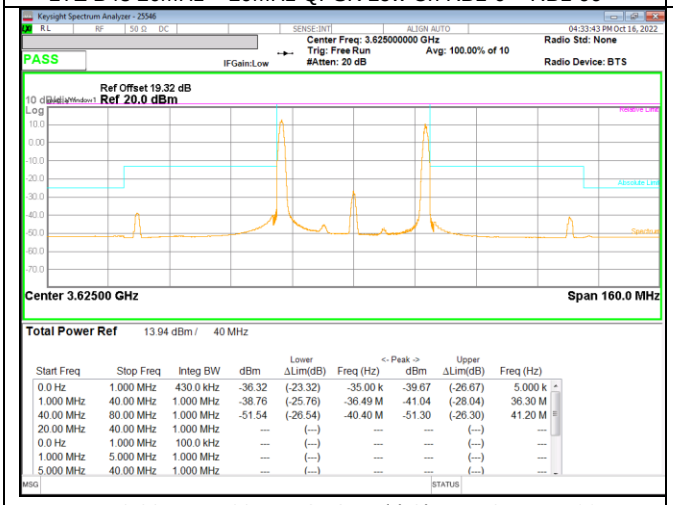
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-35.45	(-22.45)	0.0	---	(---)	---
1.000 MHz	10.00 MHz	1.000 MHz	-45.44	(-32.44)	-1.180 M	---	(---)	---
10.00 MHz	20.00 MHz	1.000 MHz	-51.13	(-26.13)	-10.35 M	---	(---)	---
20.00 MHz	80.00 MHz	1.000 MHz	-50.90	(-10.90)	-36.50 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-42.73	(-29.73)	10.00 k
1.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	-48.53	(-35.53)	1.000 M
40.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-52.13	(-27.13)	72.80 M

LTE B48 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



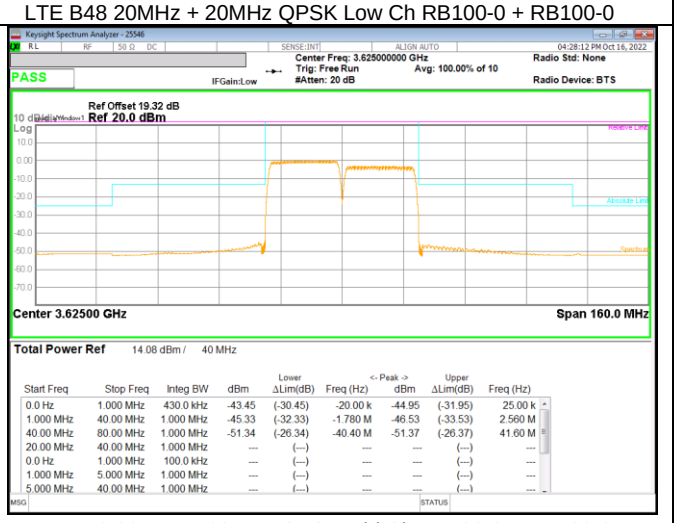
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-45.30	(-32.30)	-15.00 k	---	(---)	---
1.000 MHz	10.00 MHz	1.000 MHz	-47.64	(-34.64)	-1.090 M	---	(---)	---
10.00 MHz	20.00 MHz	1.000 MHz	-50.39	(-25.39)	-10.45 M	---	(---)	---
20.00 MHz	80.00 MHz	1.000 MHz	-51.21	(-11.21)	-21.20 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-49.17	(-36.17)	15.00 k
1.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	-50.49	(-37.49)	1.195 M
40.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-52.16	(-27.16)	57.00 M

LTE B48 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



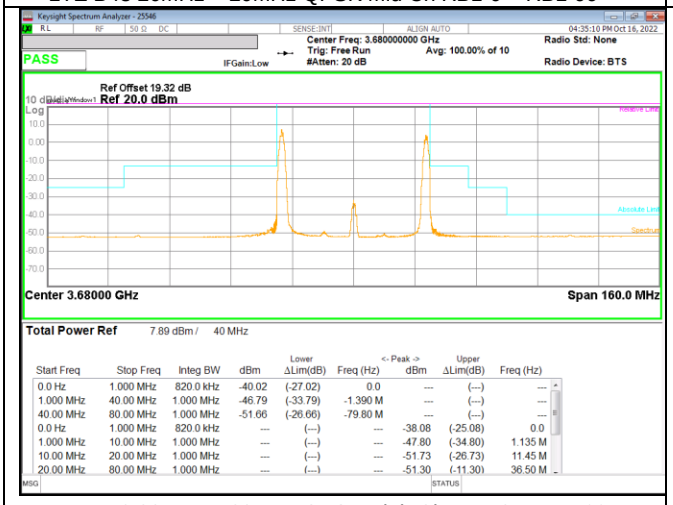
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	430.0 kHz	-36.32	(-23.32)	-35.00 k	-39.67	(-26.67)	5.000 k
1.000 MHz	40.00 MHz	1.000 MHz	-38.76	(-25.76)	-36.49 M	-41.04	(-28.04)	36.30 M
40.00 MHz	80.00 MHz	1.000 MHz	-51.54	(-26.54)	-40.40 M	-51.30	(-26.30)	41.20 M
20.00 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---
0.0 Hz	1.000 MHz	100.0 kHz	---	(---)	---	---	(---)	---
1.000 MHz	5.000 MHz	1.000 MHz	---	(---)	---	---	(---)	---
5.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---

LTE B48 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



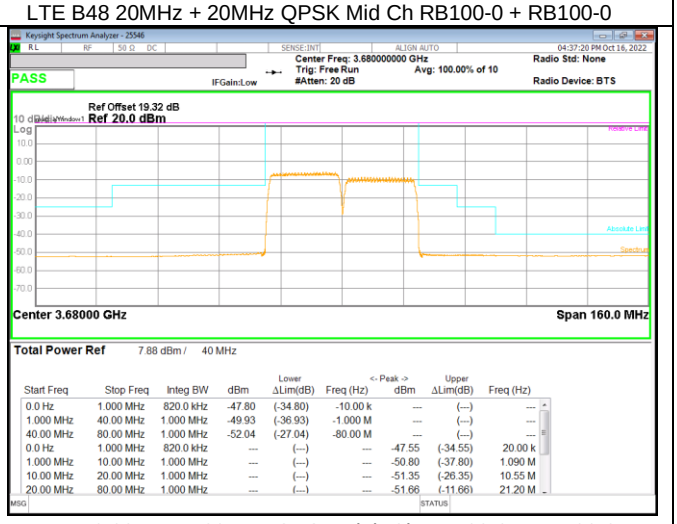
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	430.0 kHz	-43.45	(-30.45)	-20.00 k	-44.95	(-31.95)	25.00 k
1.000 MHz	40.00 MHz	1.000 MHz	-45.33	(-32.33)	-1.780 M	-46.53	(-33.53)	2.560 M
40.00 MHz	80.00 MHz	1.000 MHz	-51.34	(-26.34)	-40.40 M	-51.37	(-26.37)	41.60 M
20.00 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---
0.0 Hz	1.000 MHz	100.0 kHz	---	(---)	---	---	(---)	---
1.000 MHz	5.000 MHz	1.000 MHz	---	(---)	---	---	(---)	---
5.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---

LTE B48 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-40.02	(-27.02)	0.0	---	(---)	---
1.000 MHz	40.00 MHz	1.000 MHz	-46.79	(-33.79)	-1.390 M	---	(---)	---
40.00 MHz	80.00 MHz	1.000 MHz	-51.66	(-26.66)	-79.80 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-38.08	(-25.08)	0.0
1.000 MHz	10.00 MHz	1.000 MHz	---	(---)	---	-47.80	(-34.80)	1.135 M
10.00 MHz	20.00 MHz	1.000 MHz	---	(---)	---	-51.73	(-26.73)	11.45 M
20.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-51.30	(-11.30)	36.50 M

LTE B48 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-47.80	(-34.80)	-10.00 k	---	(---)	---
1.000 MHz	40.00 MHz	1.000 MHz	-49.93	(-36.93)	-1.000 M	---	(---)	---
40.00 MHz	80.00 MHz	1.000 MHz	-52.04	(-27.04)	-80.00 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-47.55	(-34.55)	20.00 k
1.000 MHz	10.00 MHz	1.000 MHz	---	(---)	---	-50.80	(-37.80)	1.090 M
10.00 MHz	20.00 MHz	1.000 MHz	---	(---)	---	-51.35	(-26.35)	10.55 M
20.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-51.66	(-11.66)	21.20 M

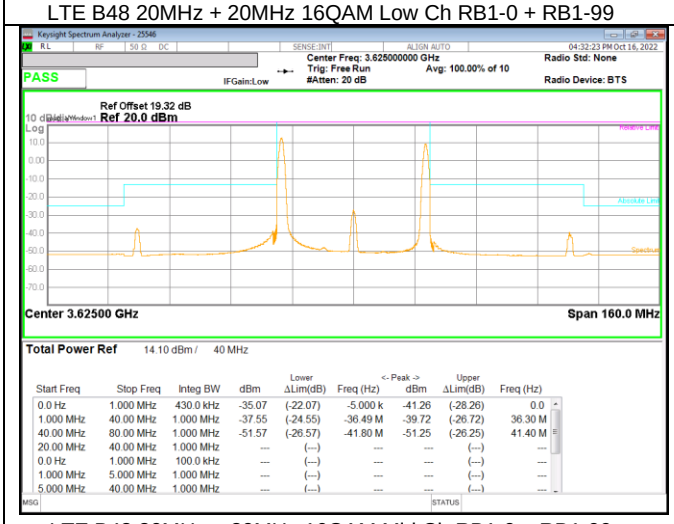
LTE B48 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0

LTE B48 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99

Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-35.07	(-22.07)	-5.000 k	---	(---)	---
1.000 MHz	10.00 MHz	1.000 MHz	-45.46	(-32.46)	-1.180 M	---	(---)	---
10.00 MHz	20.00 MHz	1.000 MHz	-50.85	(-25.85)	-10.20 M	---	(---)	---
20.00 MHz	80.00 MHz	1.000 MHz	-50.83	(-10.83)	-36.80 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-42.86	(-29.86)	15.00 k
1.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	-46.83	(-33.83)	1.000 M
40.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-52.15	(-27.15)	73.20 M

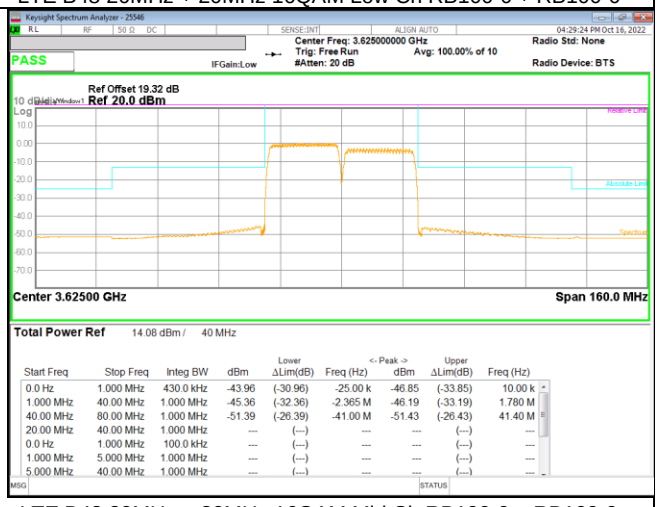
LTE B48 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0

Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-46.92	(-33.92)	0.0	---	(---)	---
1.000 MHz	10.00 MHz	1.000 MHz	-49.70	(-36.70)	-1.225 M	---	(---)	---
10.00 MHz	20.00 MHz	1.000 MHz	-50.76	(-25.76)	-11.35 M	---	(---)	---
20.00 MHz	80.00 MHz	1.000 MHz	-51.21	(-11.21)	-20.30 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-49.83	(-36.83)	55.00 k
1.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	-50.64	(-37.64)	1.975 M
40.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-52.09	(-27.09)	72.80 M



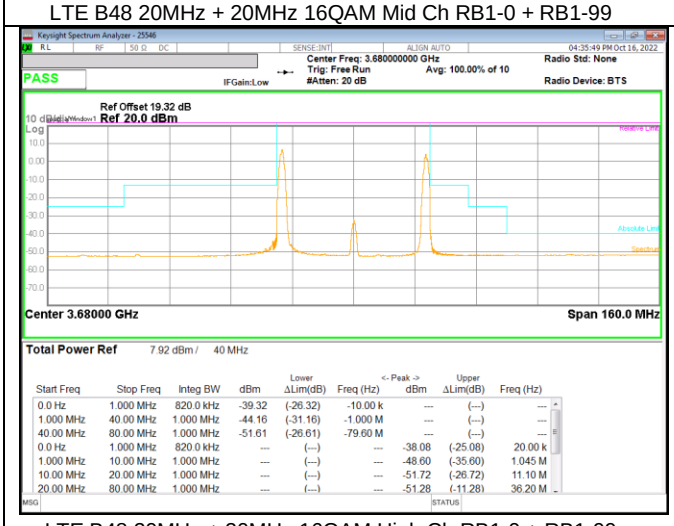
LTE B48 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99

Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	430.0 kHz	-35.07	(-22.07)	-5.000 k	-41.26	(-28.26)	0.0
1.000 MHz	40.00 MHz	1.000 MHz	-37.55	(-24.55)	-36.49 M	-39.72	(-26.72)	36.30 M
40.00 MHz	80.00 MHz	1.000 MHz	-51.57	(-26.57)	-41.80 M	-51.25	(-26.25)	41.40 M
20.00 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---
0.0 Hz	1.000 MHz	100.0 kHz	---	(---)	---	---	(---)	---
1.000 MHz	5.000 MHz	1.000 MHz	---	(---)	---	---	(---)	---
5.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---



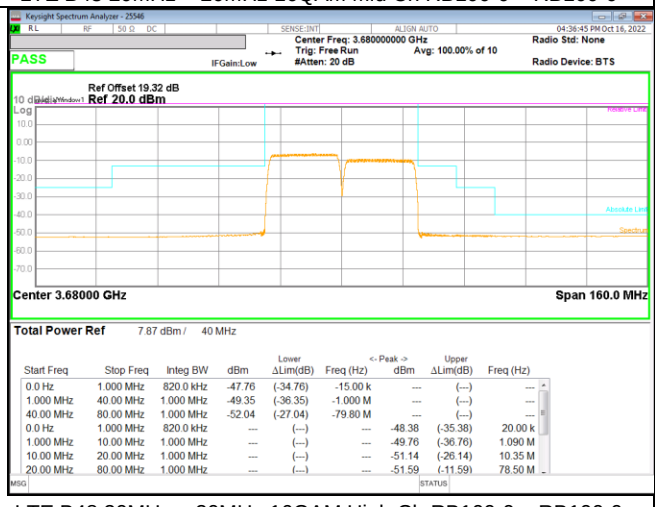
LTE B48 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0

Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	430.0 kHz	-43.96	(-30.96)	-25.00 k	-46.85	(-33.85)	10.00 k
1.000 MHz	40.00 MHz	1.000 MHz	-45.36	(-32.36)	-2.365 M	-46.19	(-33.19)	1.780 M
40.00 MHz	80.00 MHz	1.000 MHz	-51.39	(-26.39)	-41.00 M	-51.43	(-26.43)	41.40 M
20.00 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---
0.0 Hz	1.000 MHz	100.0 kHz	---	(---)	---	---	(---)	---
1.000 MHz	5.000 MHz	1.000 MHz	---	(---)	---	---	(---)	---
5.000 MHz	40.00 MHz	1.000 MHz	---	(---)	---	---	(---)	---



LTE B48 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99

Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-39.32	(-26.32)	-10.00 k	---	(---)	---
1.000 MHz	40.00 MHz	1.000 MHz	-44.16	(-31.16)	-1.000 M	---	(---)	---
40.00 MHz	80.00 MHz	1.000 MHz	-51.61	(-26.61)	-79.60 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-38.08	(-25.08)	20.00 k
1.000 MHz	10.00 MHz	1.000 MHz	---	(---)	---	-48.60	(-35.60)	1.045 M
10.00 MHz	20.00 MHz	1.000 MHz	---	(---)	---	-51.72	(-26.72)	11.10 M
20.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-51.28	(-11.28)	36.20 M



LTE B48 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Lower Freq (Hz)	<- Peak -> dBm	Upper ΔLim(dB)	Upper Freq (Hz)
0.0 Hz	1.000 MHz	820.0 kHz	-47.76	(-34.76)	-15.00 k	---	(---)	---
1.000 MHz	40.00 MHz	1.000 MHz	-49.35	(-36.35)	-1.000 M	---	(---)	---
40.00 MHz	80.00 MHz	1.000 MHz	-52.04	(-27.04)	-79.80 M	---	(---)	---
0.0 Hz	1.000 MHz	820.0 kHz	---	(---)	---	-48.38	(-35.38)	20.00 k
1.000 MHz	10.00 MHz	1.000 MHz	---	(---)	---	-49.76	(-36.76)	1.090 M
10.00 MHz	20.00 MHz	1.000 MHz	---	(---)	---	-51.14	(-26.14)	10.35 M
20.00 MHz	80.00 MHz	1.000 MHz	---	(---)	---	-51.59	(-11.59)	78.50 M

9.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, and §96.41(e)

LIMITS

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

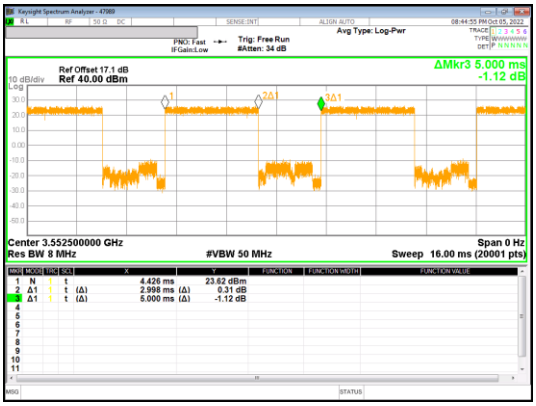
TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01
The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

a) Set the RBW = 100kHz for emission below 1GHz and 1MHz for emissions above 1GHz
   A. (Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
b) Set VBW ≥ 3 × RBW
c) Sweep time = auto couple;
d) Detector = RMS;
e) Ensure that the number of measurement points = Max (40001);
f) Trace mode = Average(TDD);

NOTE1

For LTE B48 CSE (Gate trigger off):
RF Path Loss: 17.10 dB & DCF 2.2 dB: 10log(3/5)
Measure offset: 17.10 dB+2.2 dB = 19.32 dB



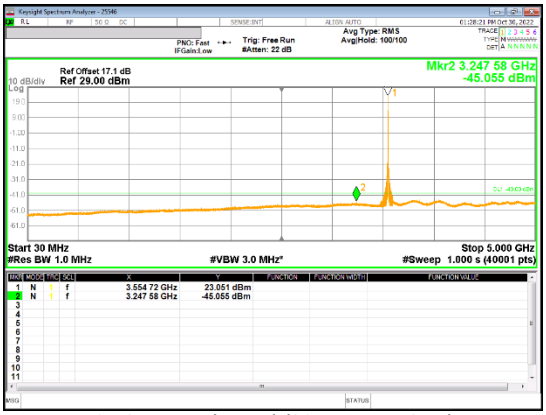
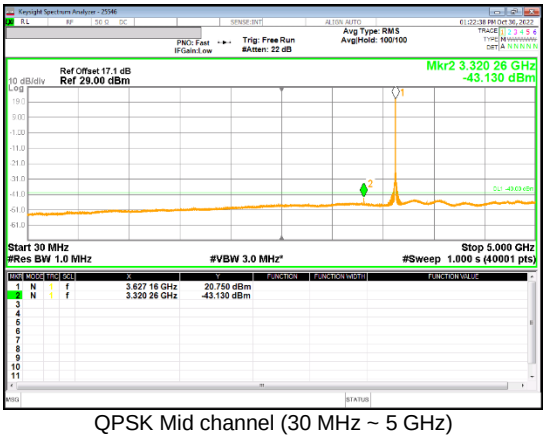
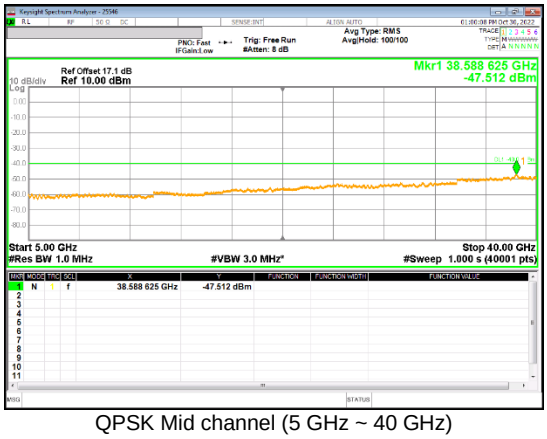
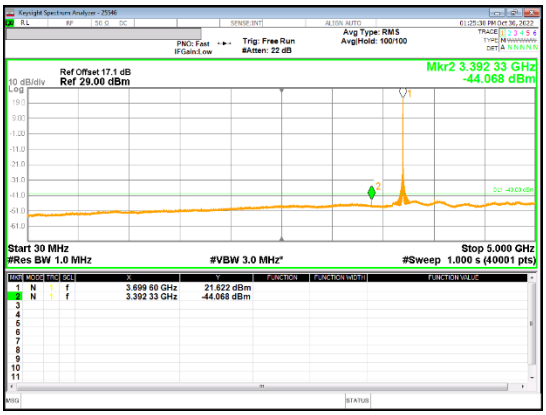
NOTE2

Please refer to section 5.4 for bandwidth and RB setting about LTE bands.

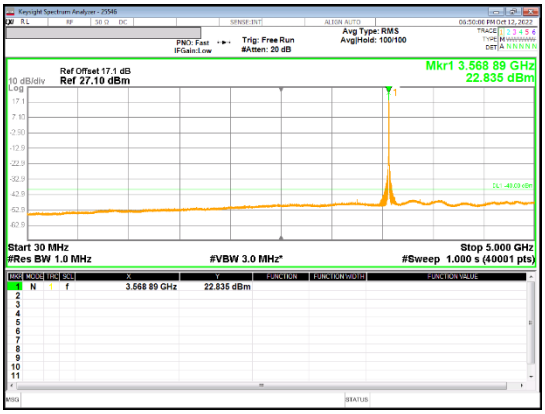
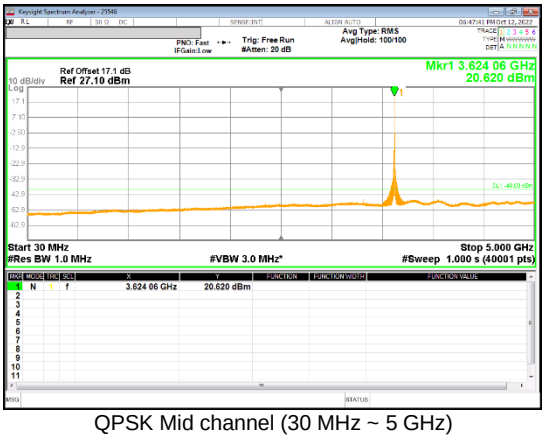
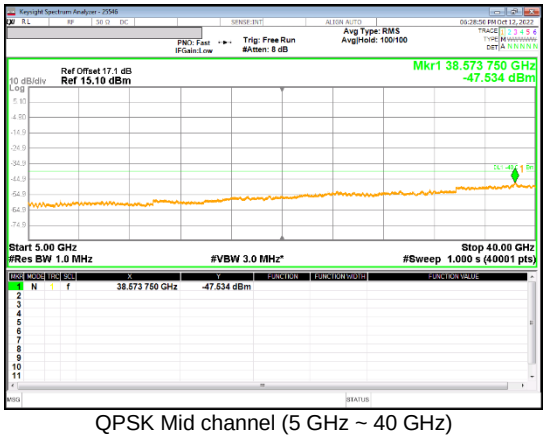
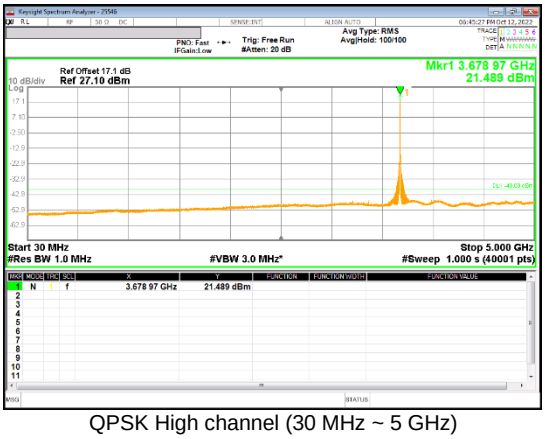
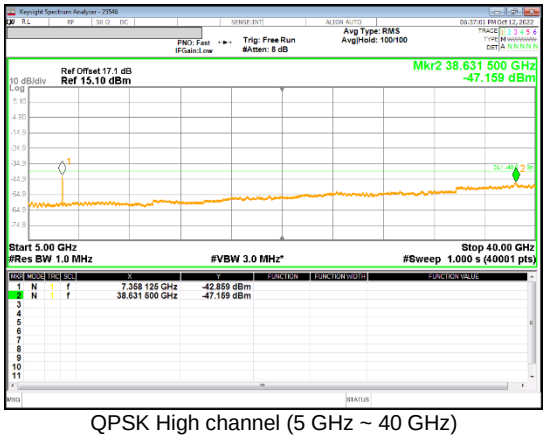
RESULTS

See the following pages.

LTE Band 48

5 MHz	 QPSK Low channel (30 MHz ~ 5 GHz)	 QPSK Low channel (5 GHz ~ 40 GHz)
	 QPSK Mid channel (30 MHz ~ 5 GHz)	 QPSK Mid channel (5 GHz ~ 40 GHz)
	 QPSK High channel (30 MHz ~ 5 GHz)	 QPSK High channel (5 GHz ~ 40 GHz)

LTE Band 48 Uplink CA

20+20 MHz	 QPSK Low channel (30 MHz ~ 5 GHz)	 QPSK Low channel (5 GHz ~ 40 GHz)
	 QPSK Mid channel (30 MHz ~ 5 GHz)	 QPSK Mid channel (5 GHz ~ 40 GHz)
	 QPSK High channel (30 MHz ~ 5 GHz)	 QPSK High channel (5 GHz ~ 40 GHz)

High channel_H_Zoom Scan

9.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055

LIMITS

For Part 96, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

NOTE

Test were performed each lowest or highest frequency on the modulation condition of more wide bandwidth.(Please refer to section 9.1.1 OBW results)

LTE Band 48(Lowest Frequency: QPSK / Highest Frequency: QPSK)

Test Date	2022-10-11
Test Engineer	25546

Limit		3550	3700	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	3550.2559	3699.7363		
Extreme (50C)		3550.2559	3699.7363	13.4	0.004
Extreme (40C)		3550.2559	3699.7363	10.8	0.003
Extreme (30C)		3550.2559	3699.7363	11.1	0.003
Extreme (10C)		3550.2559	3699.7363	12.1	0.003
Extreme (0C)		3550.2559	3699.7363	12.1	0.003
Extreme (-10C)		3550.2559	3699.7363	10.2	0.003
Extreme (-20C)		3550.2559	3699.7363	11.9	0.003
Extreme (-30C)		3550.2559	3699.7363	12.8	0.004
20C	15%	3550.2559	3699.7363	15.1	0.004
	-15%	3550.2559	3699.7363	13.9	0.004
	End Point	3550.2559	3699.7363	12.7	0.003

9.5. END USER DEVICE(CBSD PROTOCOL)

RULE PART(S)

FCC: §96.47

LIMITS

End user devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation.

An end user device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

TEST PROCEDURE

Per KDB 940660 D01 Part 96 CBRS Eqpt v03

RESULTS

Not performed.
Please refer to LTE B48 test report(Report number: 4790558569-E9V1)

9.6. RADIATED POWER (EIRP)

RULE PART(S)

FCC: §96.41(b)

LIMITS

FCC: §96.41(b)

(b) Unless otherwise specified in this section, the maximum effective isotropic radiated power (EIRP) and maximum Power Spectral Density (PSD) of any CBSD and End User Device must comply with the limits shown in the table.

Device	Maximum EIRP (dBm/10 megahertz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a

TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.17; ESU40 setting reference to 971168 D01 v03r01

For radiated output power measurement with a ESU40:

a) Set the RBW ≥ OBW;
b) Set VBW ≥ 3 × RBW;
c) Set span ≥ 2 x RBW;
d) Sweep time = auto couple;
e) Detector = rms;
f) Ensure that the number of measurement points ≥ 2 x span/RBW;
g) Trace mode = Average;

TEST RESULTS

RF Output Power(total power) EIRP results meets Maximum EIRP limit (23 dBm/10MHz) of End User Device.

NOTE1

Please refer to section 5.4 for bandwidth and RB setting about LTE bands.

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9.6.1. EIRP Results

LTE Band 48

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	3552.50	15.16	H	6.40	10.76	19.53	89.74	23.00	-3.47	1/24
		3625.00	16.03	H	6.48	10.80	20.36	108.64	23.00	-2.64	1/24
		3697.50	14.82	H	6.54	10.75	19.03	79.98	23.00	-3.97	1/24
	16-QAM	3552.50	14.25	H	6.40	10.76	18.61	72.61	23.00	-4.39	1/24
		3625.00	15.17	H	6.48	10.80	19.50	89.13	23.00	-3.50	1/24
		3697.50	13.82	H	6.54	10.75	18.04	63.68	23.00	-4.96	1/24
10	QPSK	3555.00	15.39	H	6.41	10.76	19.74	94.19	23.00	-3.26	1/25
		3625.00	15.65	H	6.48	10.80	19.98	99.54	23.00	-3.02	1/25
		3695.00	15.27	H	6.54	10.76	19.49	88.92	23.00	-3.51	1/0
	16-QAM	3555.00	14.30	H	6.41	10.76	18.65	73.28	23.00	-4.35	1/49
		3625.00	14.93	H	6.48	10.80	19.26	84.33	23.00	-3.74	1/49
		3695.00	14.43	H	6.54	10.76	18.65	73.28	23.00	-4.35	1/0
15	QPSK	3557.50	14.71	H	6.40	10.77	19.07	80.72	23.00	-3.93	1/74
		3625.00	15.76	H	6.48	10.80	20.09	102.09	23.00	-2.91	1/74
		3692.50	15.07	H	6.53	10.76	19.29	84.92	23.00	-3.71	1/0
	16-QAM	3557.50	13.83	H	6.40	10.77	18.19	65.92	23.00	-4.81	1/74
		3625.00	14.87	H	6.48	10.80	19.20	83.18	23.00	-3.80	1/74
		3692.50	14.29	H	6.53	10.76	18.52	71.12	23.00	-4.48	1/0
20	QPSK	3560.00	14.63	H	6.41	10.77	19.00	79.43	23.00	-4.00	1/99
		3625.00	15.55	H	6.48	10.80	19.87	97.05	23.00	-3.13	1/99
		3690.00	15.22	H	6.53	10.76	19.45	88.10	23.00	-3.55	1/0
	16-QAM	3560.00	13.91	H	6.41	10.77	18.27	67.14	23.00	-4.73	1/99
		3625.00	14.53	H	6.48	10.80	18.86	76.91	23.00	-4.14	1/99
		3690.00	14.25	H	6.53	10.76	18.48	70.47	23.00	-4.52	1/0

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9.7. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053 and §96.41(e)

LIMIT

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.12; ESU40 setting reference to 971168 D01 v03r01
For peak power measurement with a ESU40:

a) Set the RBW = 100 kHz for emission below 1GHz and 1MHz for emissions above 1GHz
b) Set VBW ≥ 3 × RBW;
c) Sweep time = auto couple;
d) Detector = rms;
e) Ensure that the number of measurement points ≥ span/RBW;
f) Trace mode = Average;

RESULTS

See the following pages.

NOTE

Please refer to section 5.4 for bandwidth and RB setting about LTE band.

9.7.1. SPURIOUS RADIATION PLOTS

LTE Band 48

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company:	Samsung
Project #:	4790558569
Date:	2022-10-16
Test Engineer:	25770
Configuration:	EUT / AC Adapter / Earphone, X-Position
Location:	Chamber 1
Mode:	LTE_QPSK Band 48 Harmonics, 5MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

5MHz

QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3552.5MHz									
7105.00	-14.0	V	3.0	45.5	1.0	-58.5	-40.0	-18.5	
10657.50	-9.8	V	3.0	46.1	1.0	-54.9	-40.0	-14.9	
14210.00	-2.4	V	3.0	46.4	1.0	-47.9	-40.0	-7.9	
7105.00	-14.1	H	3.0	45.5	1.0	-58.6	-40.0	-18.6	
10657.50	-9.3	H	3.0	46.1	1.0	-54.4	-40.0	-14.4	
14210.00	-7.6	H	3.0	46.4	1.0	-53.1	-40.0	-13.1	
Mid Ch, 3625MHz									
7250.00	-13.0	V	3.0	45.5	1.0	-57.5	-40.0	-17.5	
10875.00	-9.9	V	3.0	46.3	1.0	-55.2	-40.0	-15.2	
14500.00	-7.4	V	3.0	46.3	1.0	-52.7	-40.0	-12.7	
7250.00	-13.2	H	3.0	45.5	1.0	-57.7	-40.0	-17.7	
10875.00	-10.0	H	3.0	46.3	1.0	-55.3	-40.0	-15.3	
14500.00	-11.3	H	3.0	46.3	1.0	-56.7	-40.0	-16.7	
High Ch, 3697.5MHz									
7395.00	-8.9	V	3.0	45.5	1.0	-53.4	-40.0	-13.4	
11092.50	-10.1	V	3.0	46.5	1.0	-55.6	-40.0	-15.6	
14790.00	-10.4	V	3.0	46.2	1.0	-55.6	-40.0	-15.6	
7395.00	-8.1	H	3.0	45.5	1.0	-52.6	-40.0	-12.6	
11092.50	-9.9	H	3.0	46.5	1.0	-55.4	-40.0	-15.4	
14790.00	-10.7	H	3.0	46.2	1.0	-55.9	-40.0	-15.9	

LTE Band 48 Uplink CA

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company:	Samsung
Project #:	4790558569
Date:	2022-11-01
Test Engineer:	26087
Configuration:	EUT / AC Adapter / Earphone, X-Position
Location:	Chamber 1
Mode:	LTE_QPSK Band 48 Harmonics, 20+20MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

20+20 MHz

QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, PCC : 3560MHz SCC : 3579.8MHz									
7139.80	-16.8	V	3.0	45.5	1.0	-61.3	-40.0	-21.3	
10709.70	-13.1	V	3.0	46.2	1.0	-58.2	-40.0	-18.2	
14279.60	-14.9	V	3.0	46.4	1.0	-60.3	-40.0	-20.3	
7139.80	-16.9	H	3.0	45.5	1.0	-61.4	-40.0	-21.4	
10709.70	-13.1	H	3.0	46.2	1.0	-58.3	-40.0	-18.3	
14279.60	-14.7	H	3.0	46.4	1.0	-60.2	-40.0	-20.2	
Mid Ch, PCC : 3615.1MHz SCC : 3634.9MHz									
7250.00	-16.2	V	3.0	45.5	1.0	-60.7	-40.0	-20.7	
10875.00	-12.7	V	3.0	46.3	1.0	-58.0	-40.0	-18.0	
14500.00	-15.9	V	3.0	46.3	1.0	-61.2	-40.0	-21.2	
7250.00	-16.3	H	3.0	45.5	1.0	-60.8	-40.0	-20.8	
10875.00	-12.7	H	3.0	46.3	1.0	-58.0	-40.0	-18.0	
14500.00	-15.8	H	3.0	46.3	1.0	-61.2	-40.0	-21.2	
High Ch, PCC : 3670.2MHz SCC : 3690MHz									
7660.20	-15.9	V	3.0	45.6	1.0	-60.4	-40.0	-20.4	
11490.30	-12.2	V	3.0	46.8	1.0	-58.1	-40.0	-18.1	
15320.40	-13.5	V	3.0	46.0	1.0	-58.5	-40.0	-18.5	
7660.20	-15.8	H	3.0	45.6	1.0	-60.4	-40.0	-20.4	
11490.30	-12.1	H	3.0	46.8	1.0	-57.9	-40.0	-17.9	
15320.40	-13.5	H	3.0	46.0	1.0	-58.5	-40.0	-18.5	

END OF TEST REPORT

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