

Figure 380: QPSK 15MHz B.W.; 1937.5MHz Output – 4G

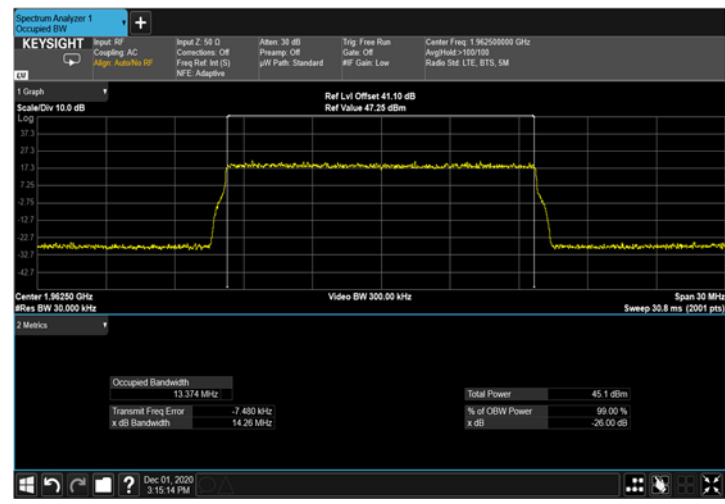


Figure 381: QPSK 15MHz B.W.; 1962.5MHz Output – 4G

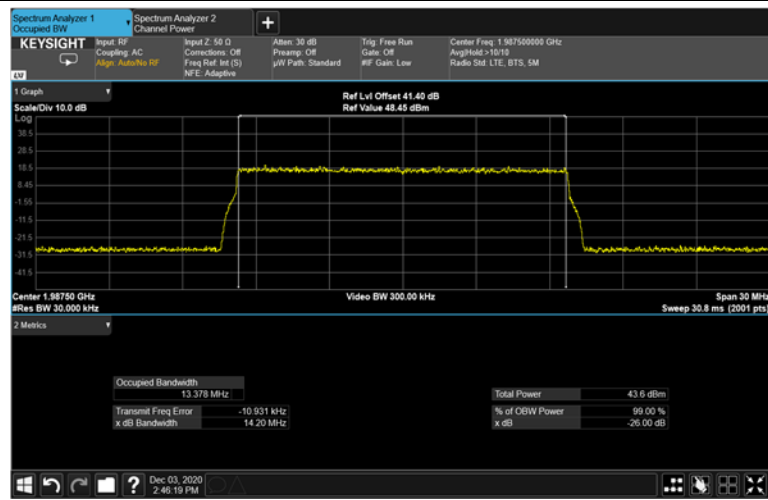


Figure 382: QPSK 15MHz B.W.; 1987.5MHz Output – 4G

9.5 Test Equipment Used; Occupied Bandwidth

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibration Date	Next Calibration Due
EXA signal Analyzer	Keysight	UXA N9040B	MY56080119	January 31, 2020	31 January 2022
EXG Vector Signal Generator	Agilent Technologies	N5172B	MY53051952	17 January 2019	17 January 2022
40 dB Attenuator	Weinschel Associates	WA 39-40-33	-	November 1, 2020	November 1, 2021
RF Coaxial Cable	Huber-Suner	SLLS210B	-	November 1, 2020	November 1, 2021

Table 38 Test Equipment Used



10 Spurious Emissions at Antenna Terminals - 5G

10.1 Test Specification

FCC Part 24, Subpart E (24.238(a))

10.2 Test Procedure

(Temperature (22°C)/ Humidity (36%RH))

The E.U.T. antenna terminal was connected to the spectrum analyzer through an external attenuator and an appropriate coaxial cable (max loss=44dB). scanning was performed until 20GHz

10.3 Test Limit

The power of any emission outside of the authorized operating frequency ranges (1930 -1995 MHz) must be attenuated below the transmitting power (P) by a factor of $43 + 10 \log (P)$ dB.

10.4 Test Results

JUDGEMENT: Passed

See additional information in Figure 383 to Figure 454.

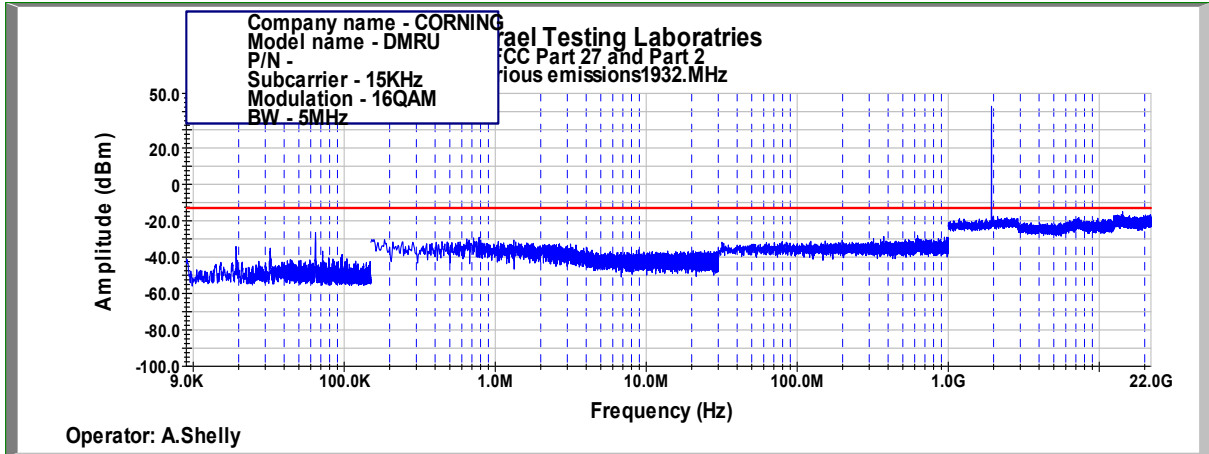


Figure 383: Spurious Emissions at Antenna Terminal 16QAM, 1932.5MHz, B.W. 5MHz, Sub Carrier 15kHz

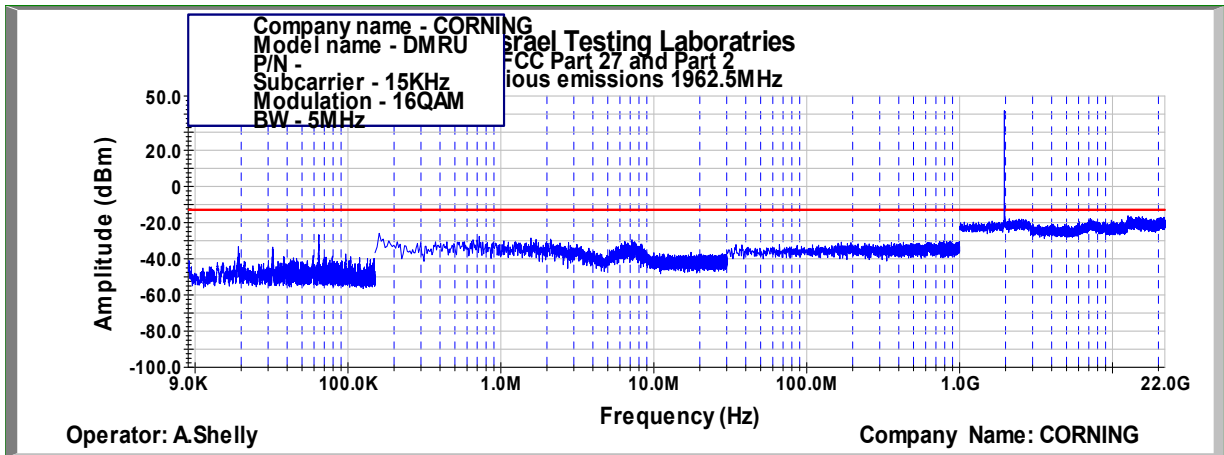


Figure 384: Spurious Emissions at Antenna Terminal 16QAM, 1962.5MHz, B.W. 5MHz, Sub Carrier 15kHz

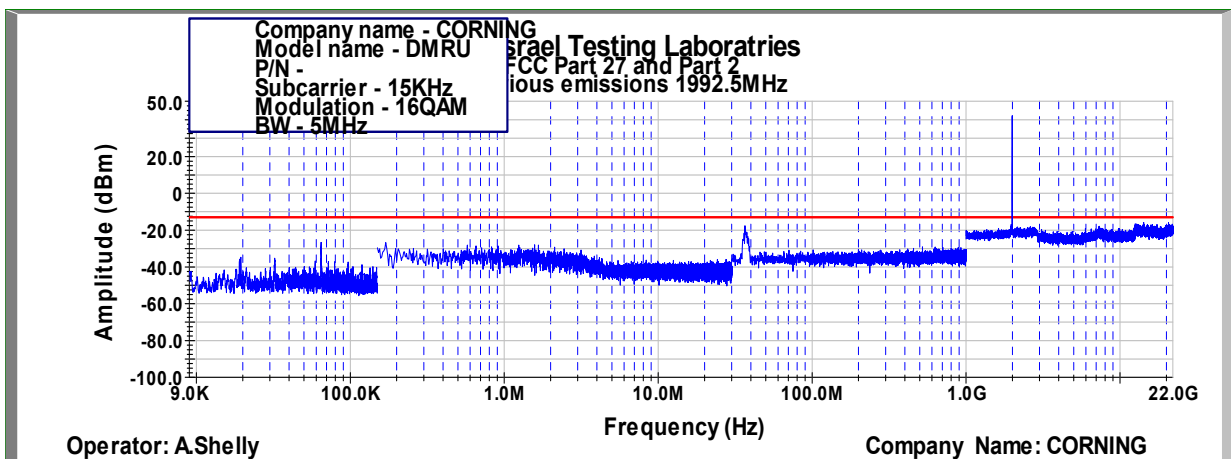


Figure 385: Spurious Emissions at Antenna Terminal 16QAM, 1992.5MHz, B.W. 5MHz, Sub Carrier 15kHz

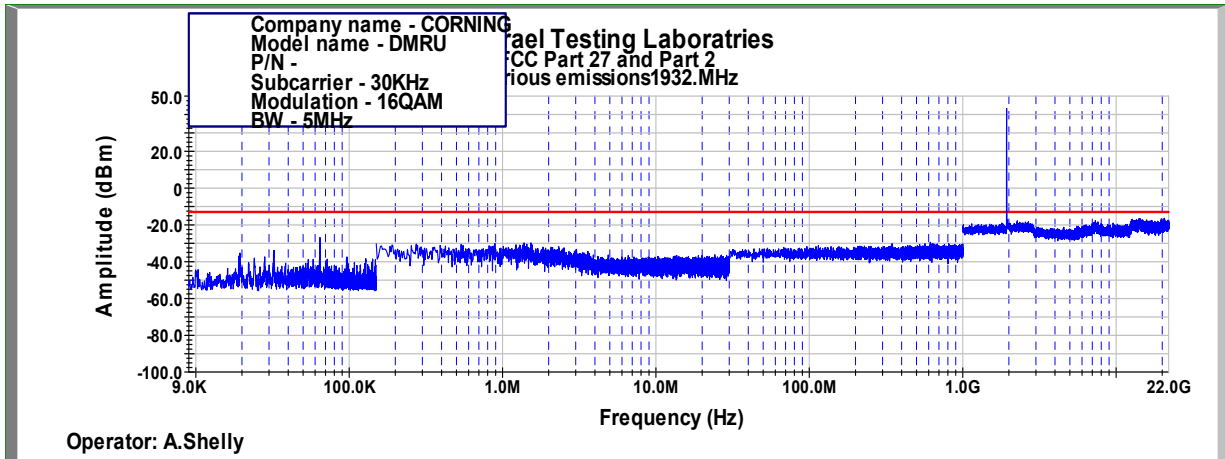


Figure 386: Spurious Emissions at Antenna Terminal 16QAM, 1932.5MHz, B.W. 5MHz, Sub Carrier 30kHz

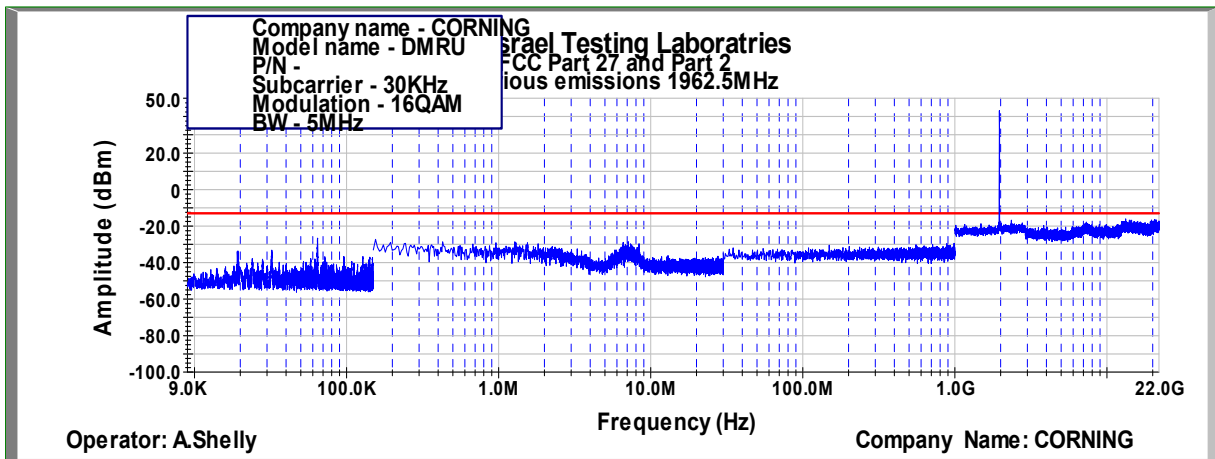


Figure 387: Spurious Emissions at Antenna Terminal 16QAM, 1962.5MHz, B.W. 5MHz, Sub Carrier 30kHz

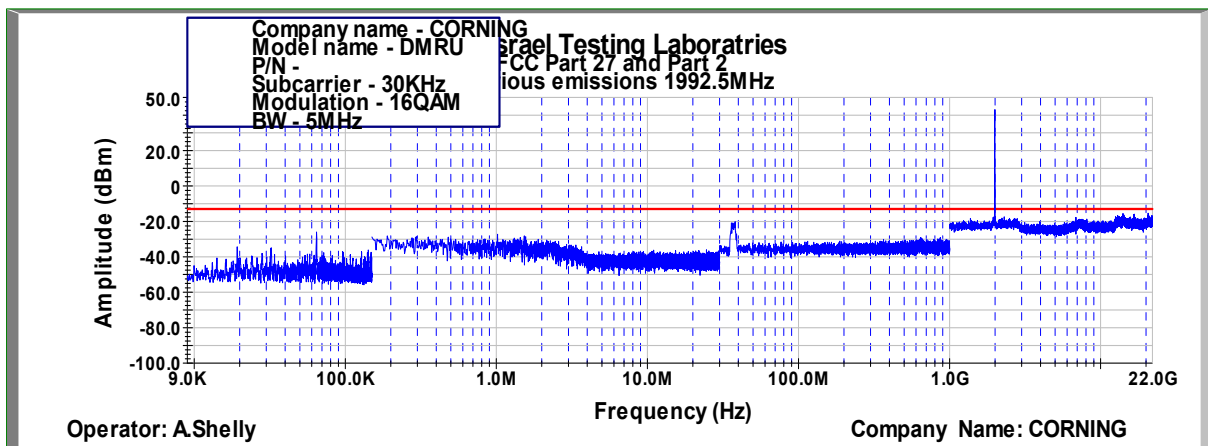


Figure 388: Spurious Emissions at Antenna Terminal 16QAM, 1992.5MHz, B.W. 5MHz, Sub Carrier 30kHz

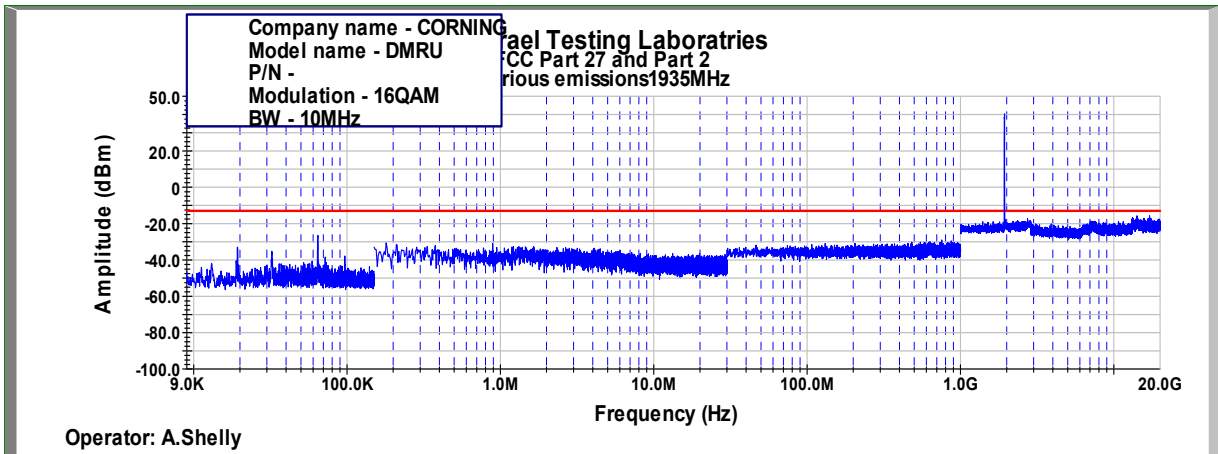


Figure 389: Spurious Emissions at Antenna Terminal 16QAM, 1935MHz, B.W. 10MHz, Sub Carrier 15kHz

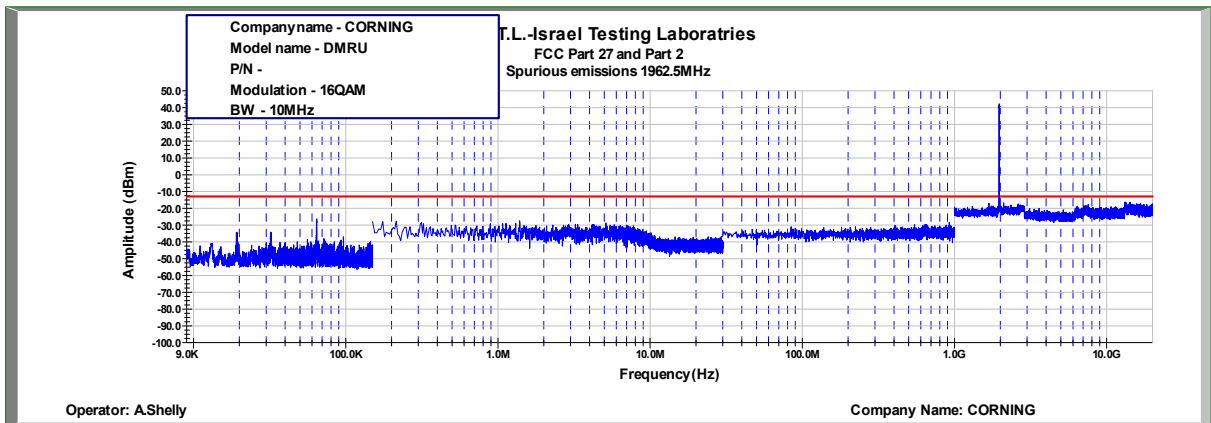


Figure 390: Spurious Emissions at Antenna Terminal 16QAM, 1962.5MHz, B.W. 10MHz, Sub Carrier 15kHz

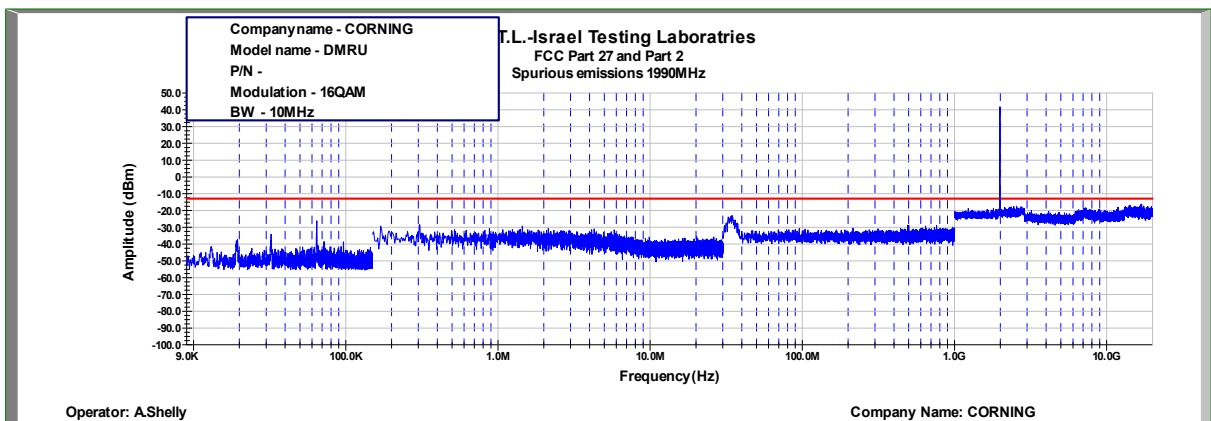


Figure 391: Spurious Emissions at Antenna Terminal 16QAM, 1990MHz, B.W. 10MHz, Sub Carrier 15kHz

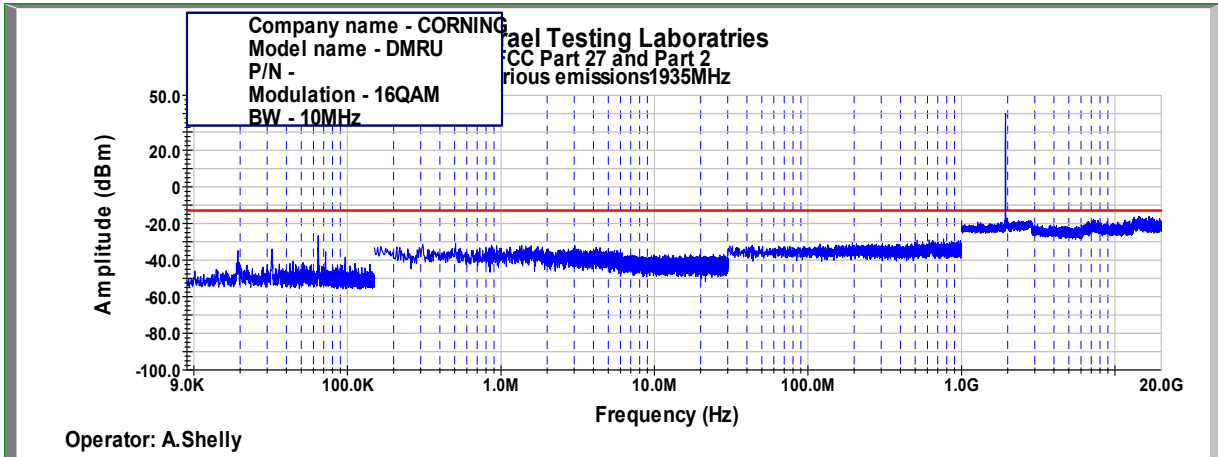


Figure 392: Spurious Emissions at Antenna Terminal 16QAM, 1935MHz, B.W. 10MHz, Sub Carrier 30kHz

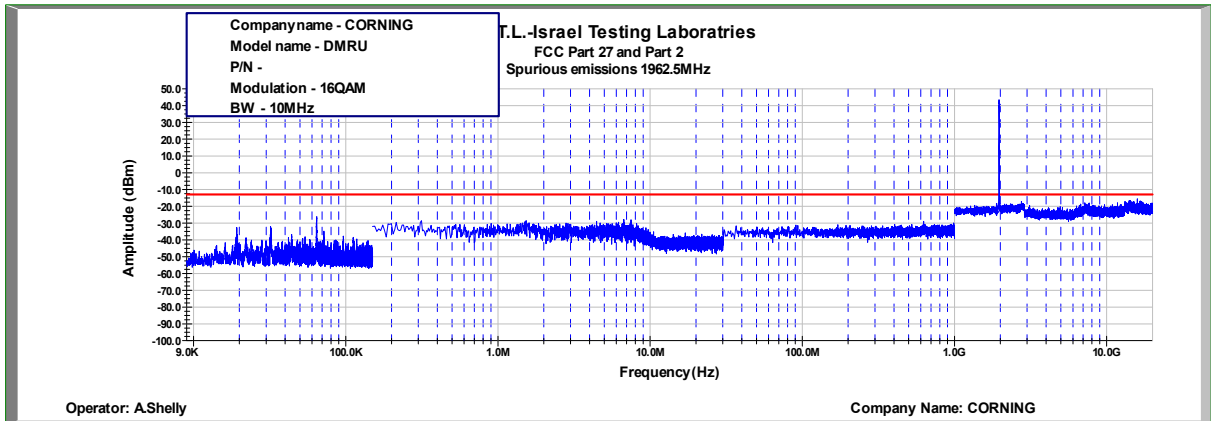


Figure 393: Spurious Emissions at Antenna Terminal 16QAM, 1962.5MHz, B.W. 10MHz, Sub Carrier 30kHz

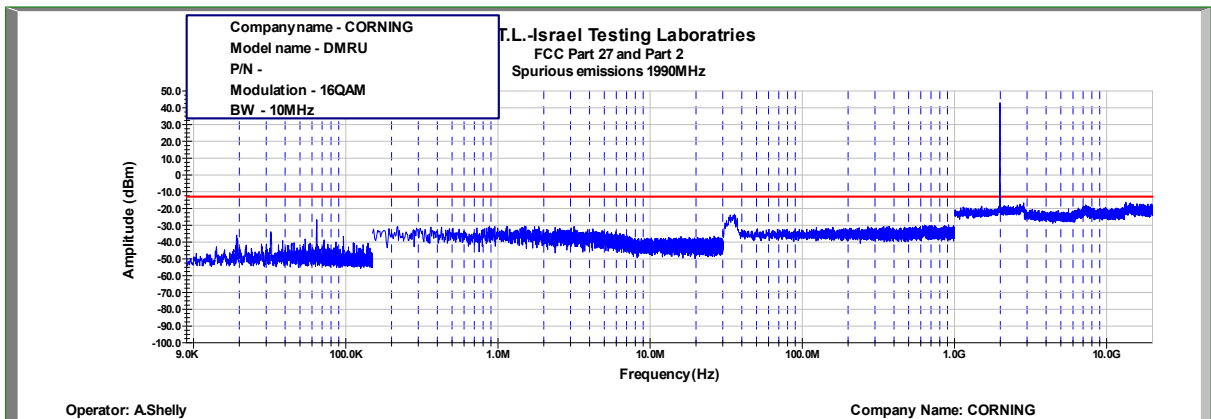


Figure 394: Spurious Emissions at Antenna Terminal 16QAM, 1990MHz, B.W. 10MHz, Sub Carrier 30kHz

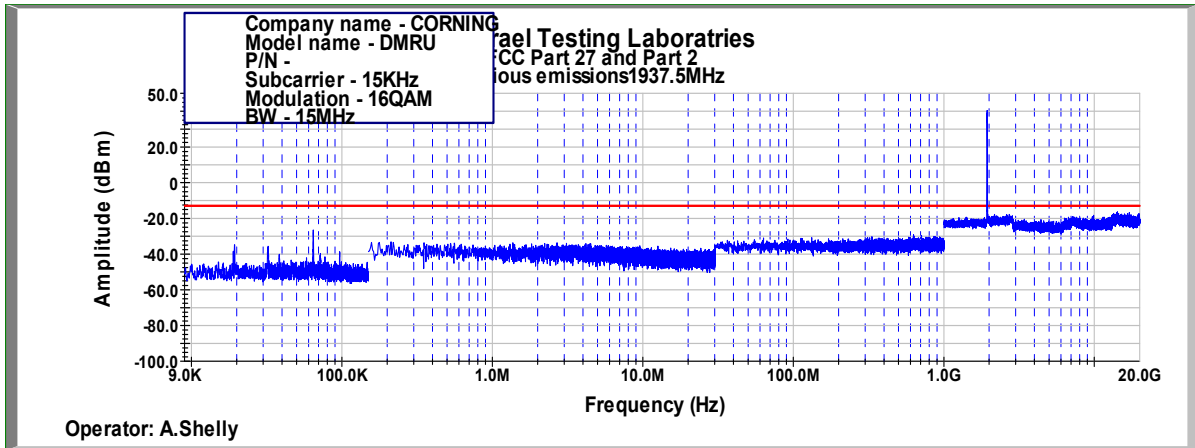


Figure 395: Spurious Emissions at Antenna Terminal 16QAM, 1937.5MHz, B.W. 15MHz, Sub Carrier 15kHz

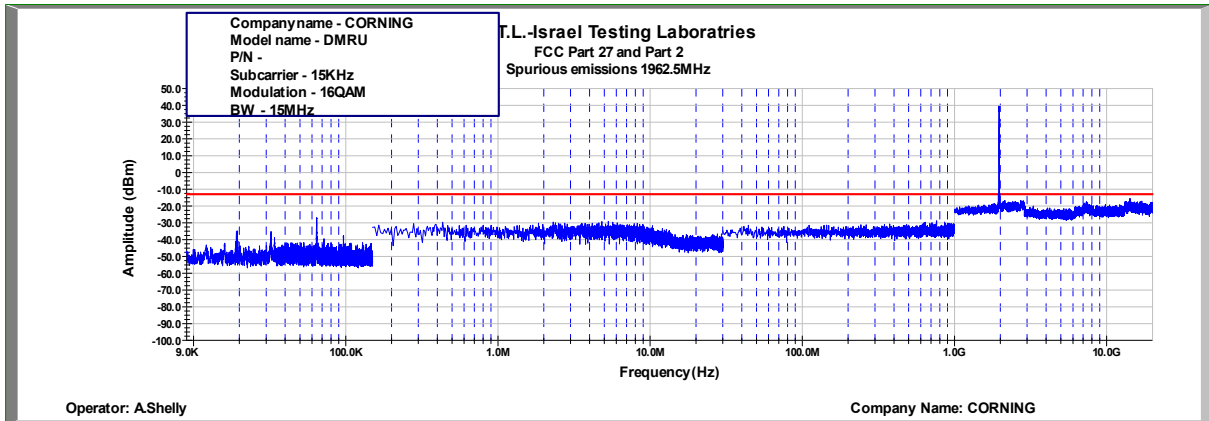


Figure 396: Spurious Emissions at Antenna Terminal 16QAM, 1962.5MHz, B.W. 15MHz, Sub Carrier 15kHz

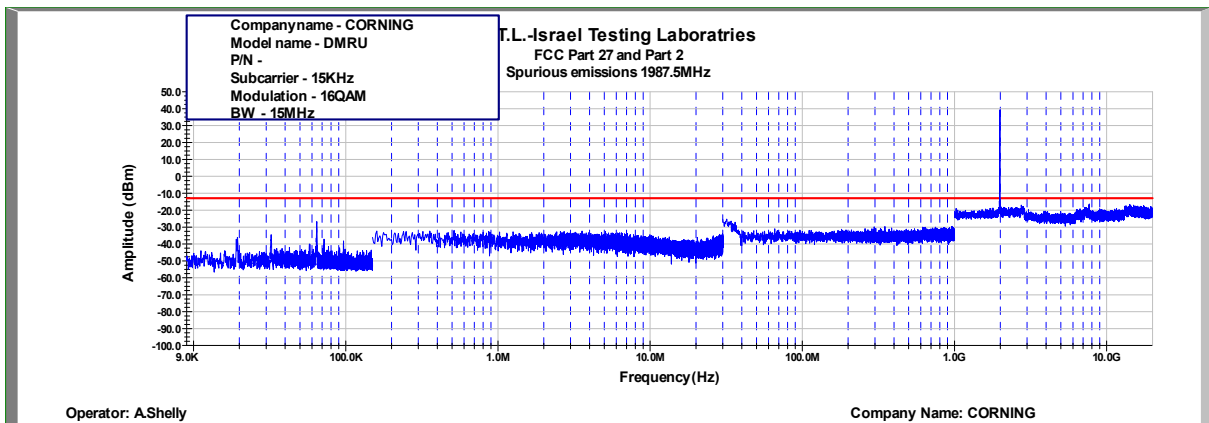


Figure 397: Spurious Emissions at Antenna Terminal 16QAM, 1987.5MHz, B.W. 15MHz, Sub Carrier 15kHz

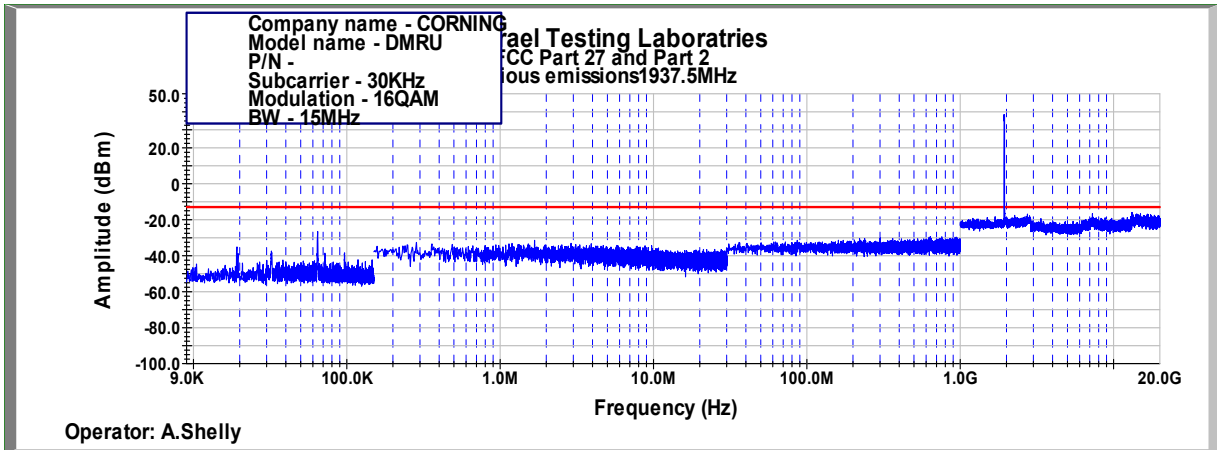


Figure 398: Spurious Emissions at Antenna Terminal 16QAM, 1937.5MHz, B.W. 15MHz, Sub Carrier 30kHz

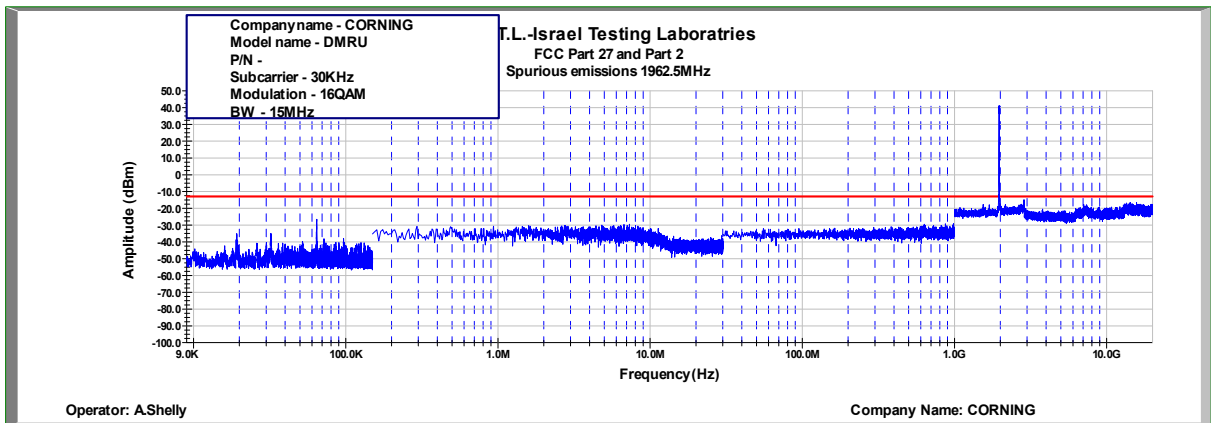


Figure 399: Spurious Emissions at Antenna Terminal 16QAM, 1962.5MHz, B.W. 15MHz, Sub Carrier 30kHz

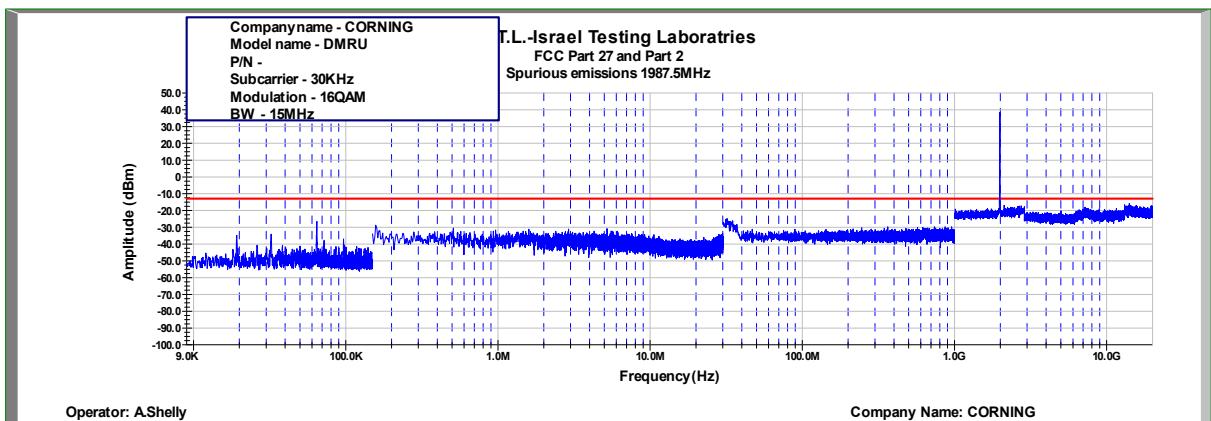


Figure 400: Spurious Emissions at Antenna Terminal 16QAM, 1987.5MHz, B.W. 15MHz, Sub Carrier 30kHz

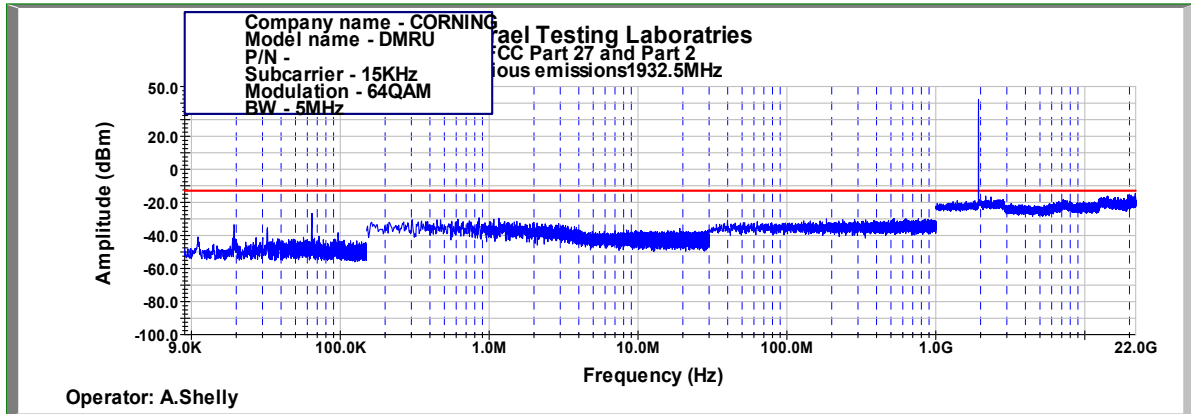


Figure 401: Spurious Emissions at Antenna Terminal 64QAM, 1932.5MHz, B.W. 5MHz, Sub Carrier 15kHz

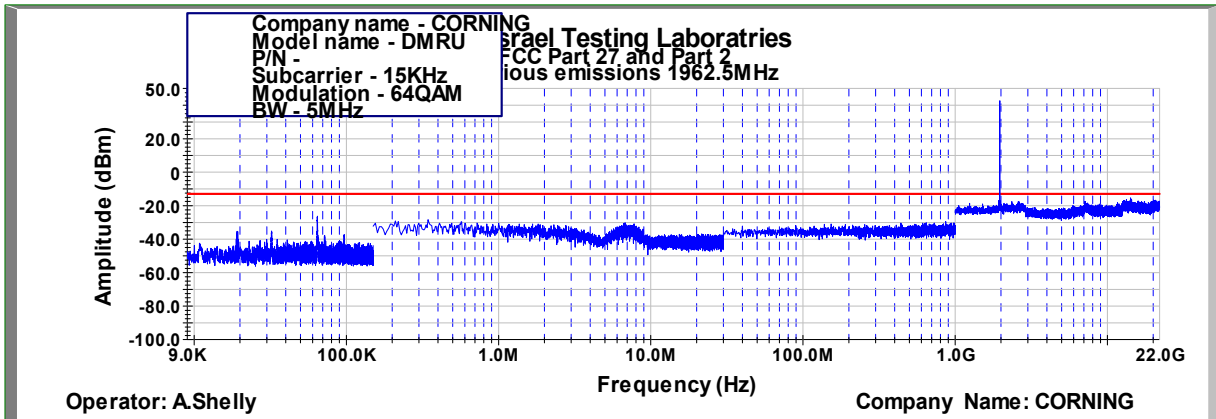


Figure 402: Spurious Emissions at Antenna Terminal 64QAM, 1962.5MHz, B.W. 5MHz, Sub Carrier 15kHz

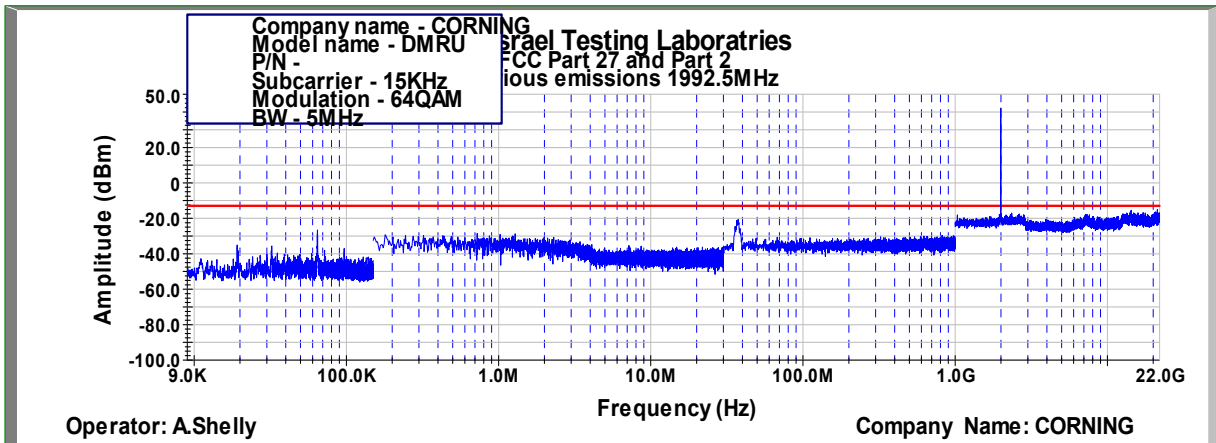


Figure 403: Spurious Emissions at Antenna Terminal 64QAM, 1992.5MHz, B.W. 5MHz, Sub Carrier 15kHz

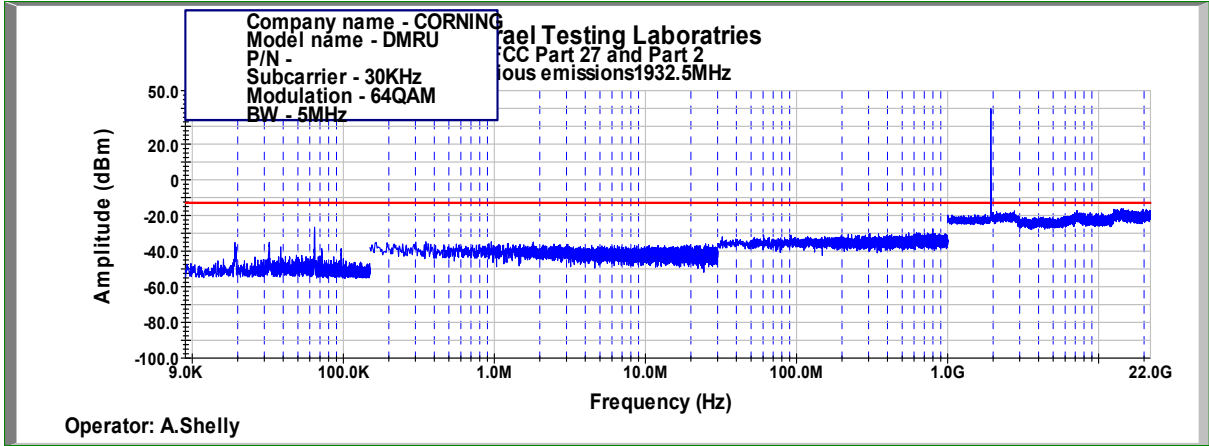


Figure 404: Spurious Emissions at Antenna Terminal 64QAM, 1932.5MHz, B.W. 5MHz, Sub Carrier 30kHz

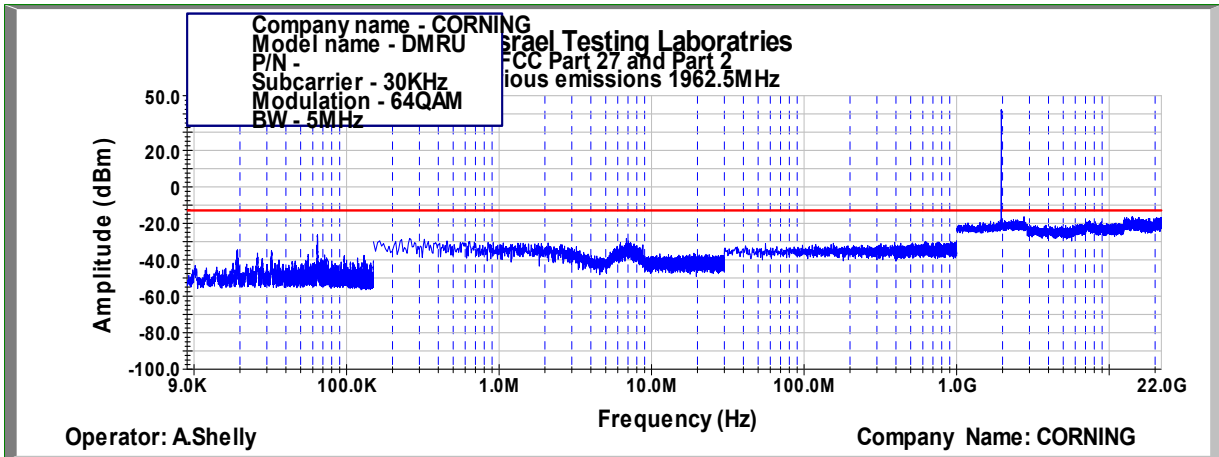


Figure 405: Spurious Emissions at Antenna Terminal 64QAM, 1962.5MHz, B.W. 5MHz, Sub Carrier 30kHz

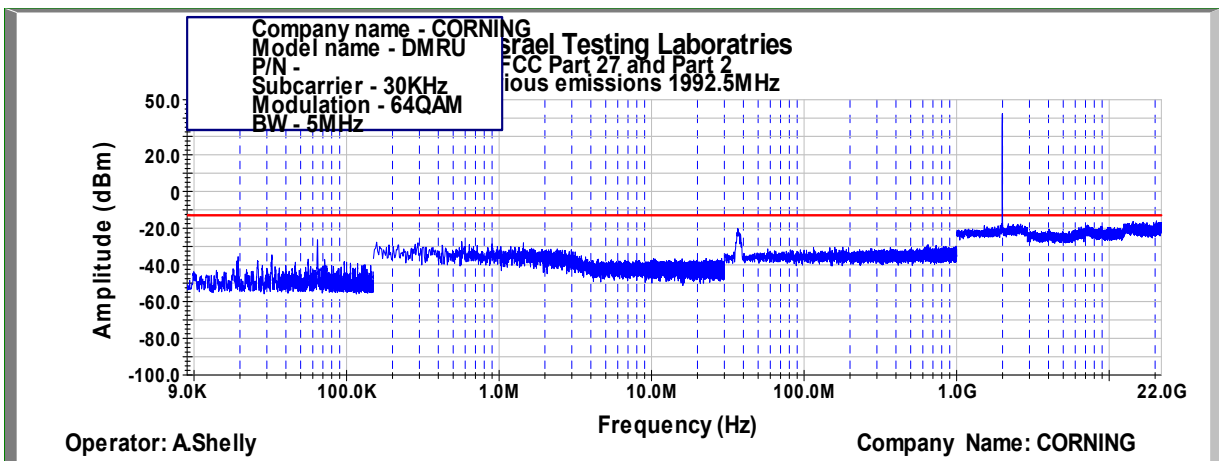


Figure 406: Spurious Emissions at Antenna Terminal 64QAM, 1992.5MHz, B.W. 5MHz, Sub Carrier 30kHz

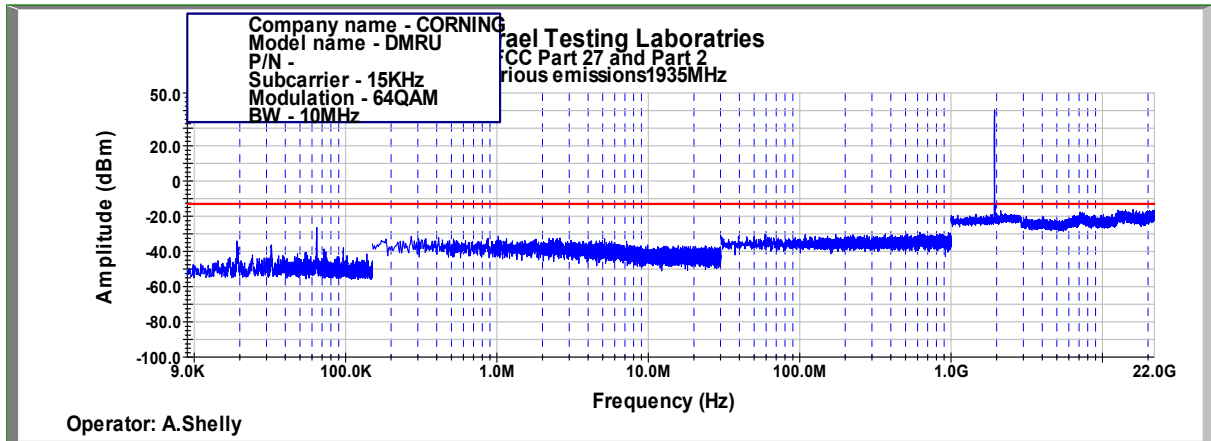


Figure 407: Spurious Emissions at Antenna Terminal 64QAM, 1935MHz, B.W. 10MHz, Sub Carrier 15kHz

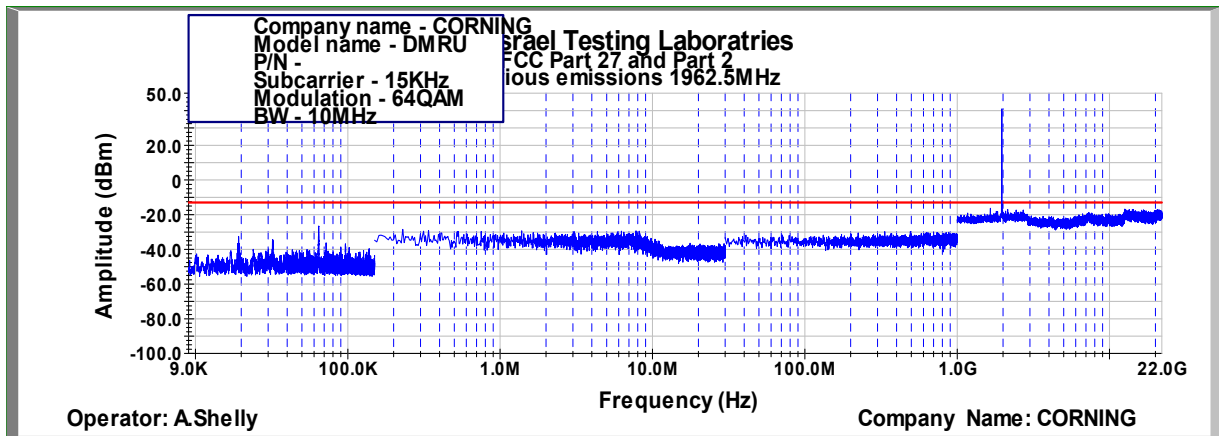


Figure 408: Spurious Emissions at Antenna Terminal 64QAM, 1962.5MHz, B.W. 10MHz, Sub Carrier 15kHz

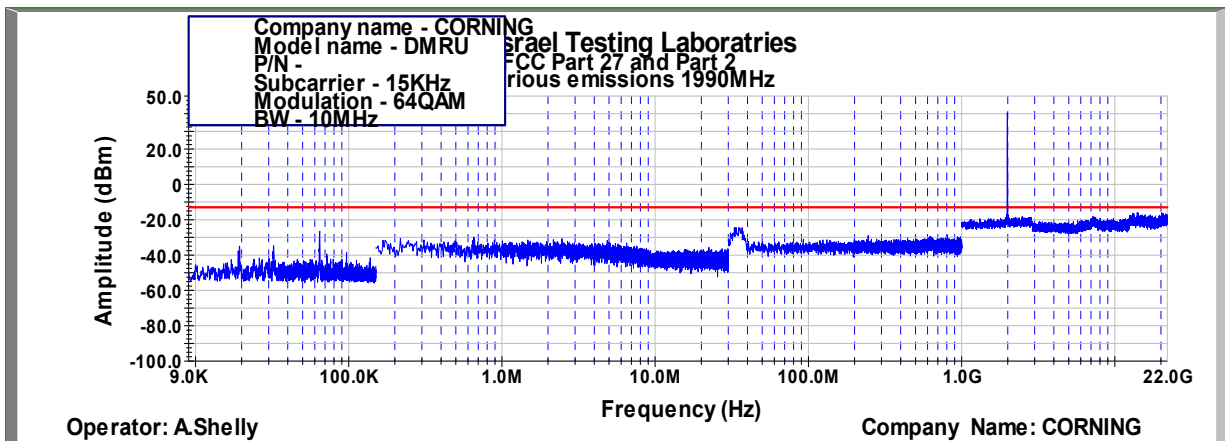


Figure 409: Spurious Emissions at Antenna Terminal 64QAM, 1990MHz, B.W. 10MHz, Sub Carrier 15kHz

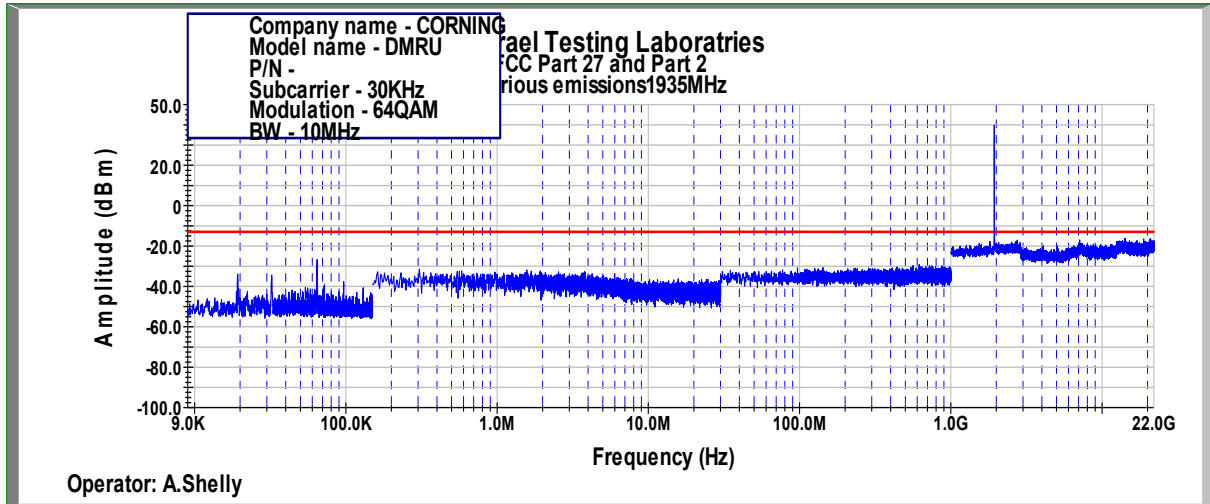


Figure 410: Spurious Emissions at Antenna Terminal 64QAM, 1935MHz, B.W. 10MHz, Sub Carrier 30kHz

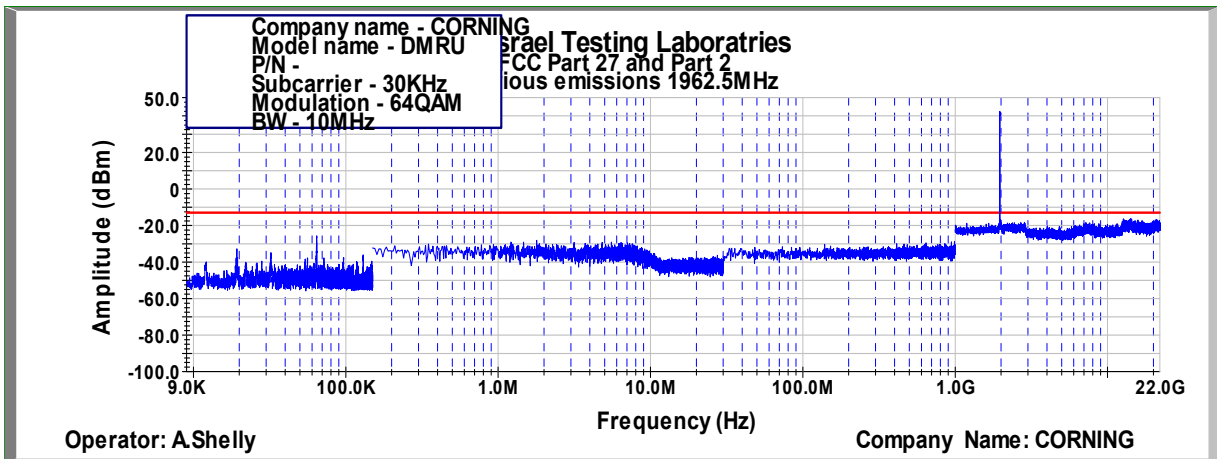


Figure 411: Spurious Emissions at Antenna Terminal 64QAM, 1962.5MHz, B.W. 10MHz, Sub Carrier 30kHz

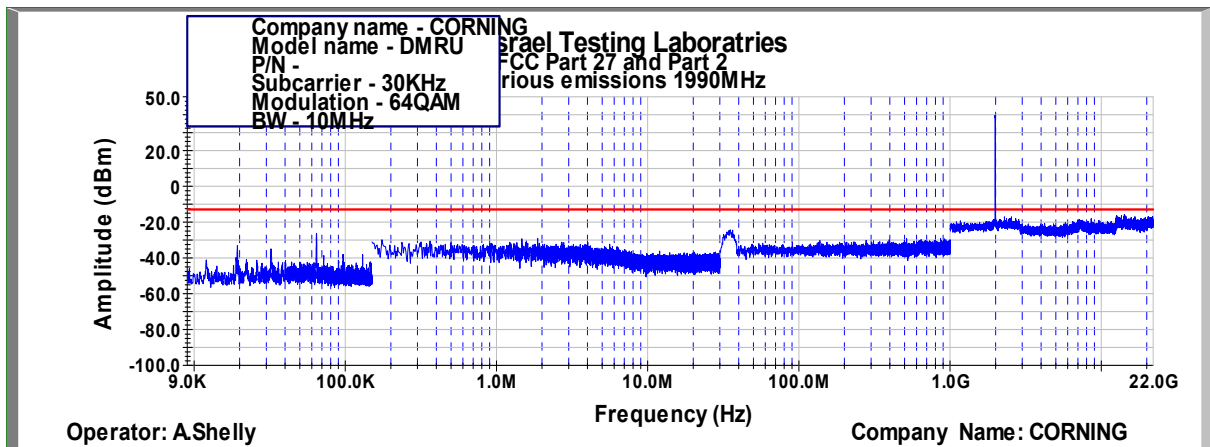


Figure 412: Spurious Emissions at Antenna Terminal 64QAM, 1990MHz, B.W. 10MHz, Sub Carrier 30kHz

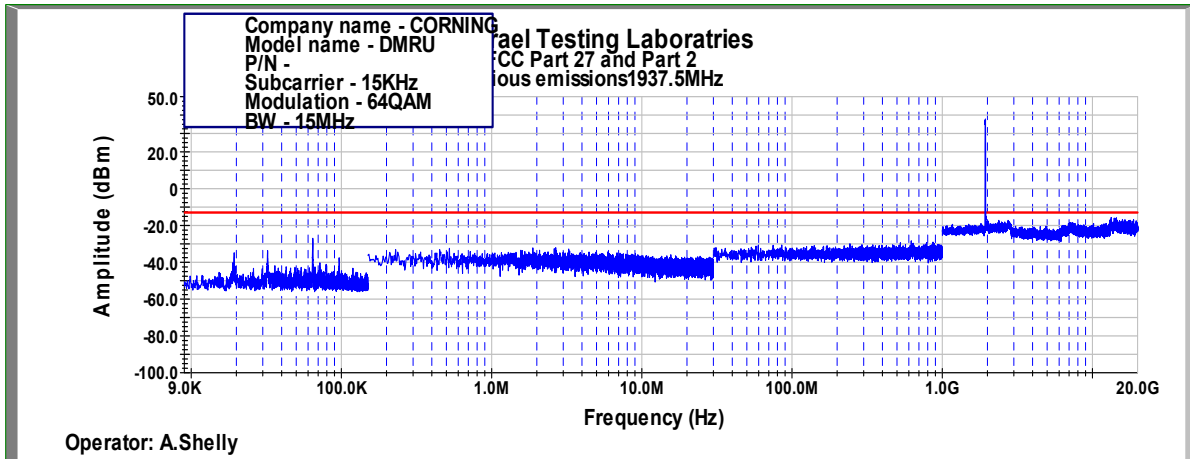


Figure 413: Spurious Emissions at Antenna Terminal 64QAM, 1937.5MHz, B.W. 15MHz, Sub Carrier 15kHz

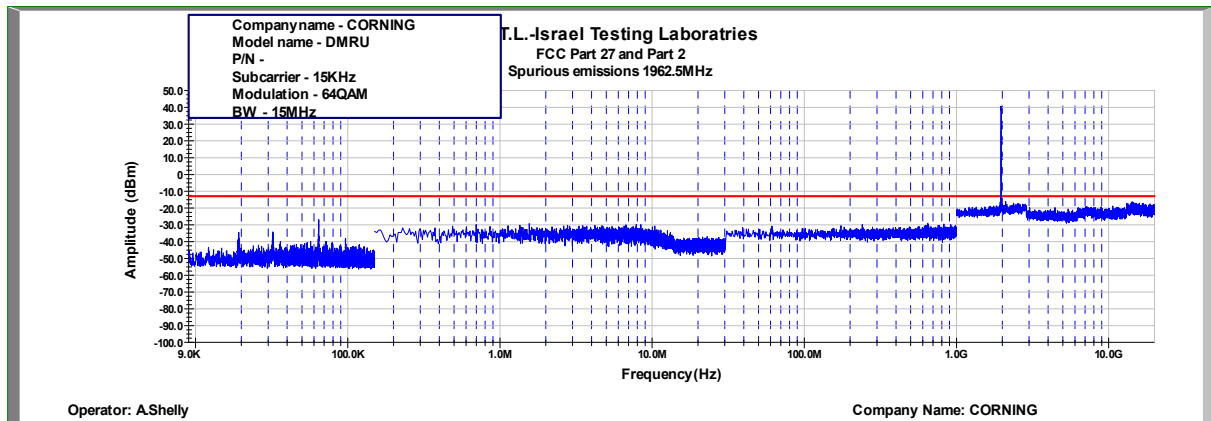


Figure 414: Spurious Emissions at Antenna Terminal 64QAM, 1962.5MHz, B.W. 15MHz, Sub Carrier 15kHz

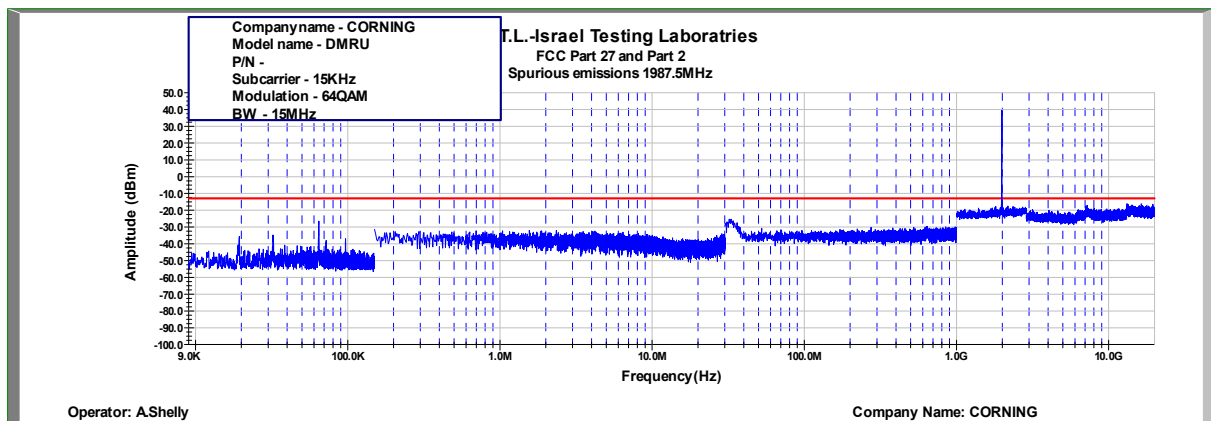


Figure 415: Spurious Emissions at Antenna Terminal 64QAM, 1987.5MHz, B.W. 15MHz, Sub Carrier 15kHz

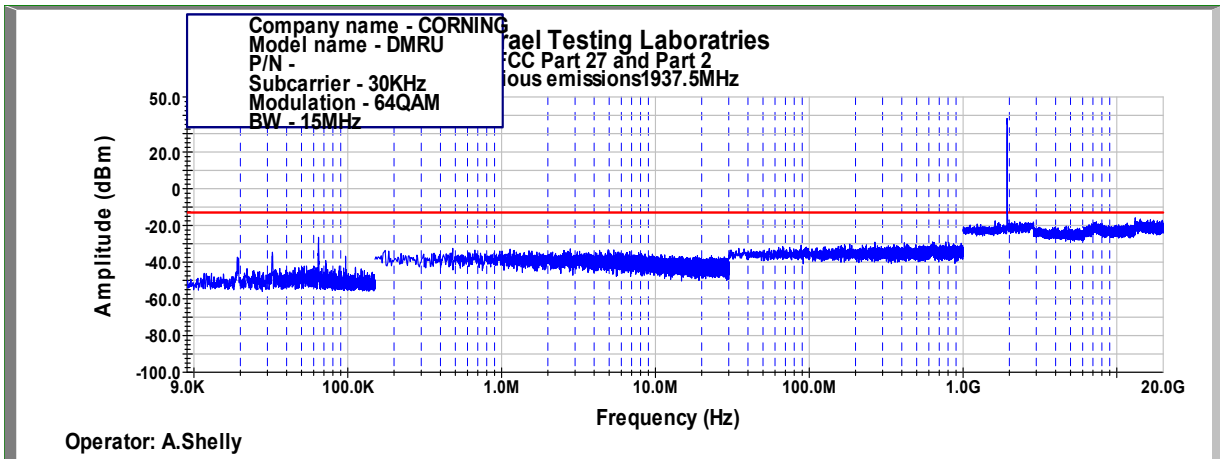


Figure 416: Spurious Emissions at Antenna Terminal 64QAM, 1937.5MHz, B.W. 15MHz, Sub Carrier 30kHz

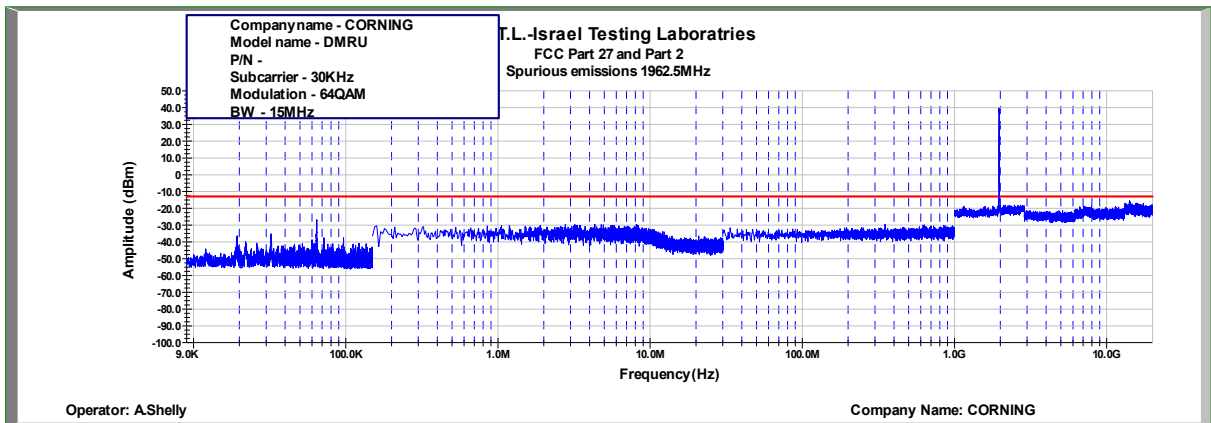


Figure 417: Spurious Emissions at Antenna Terminal 64QAM, 1962.5MHz, B.W. 15MHz, Sub Carrier 30kHz

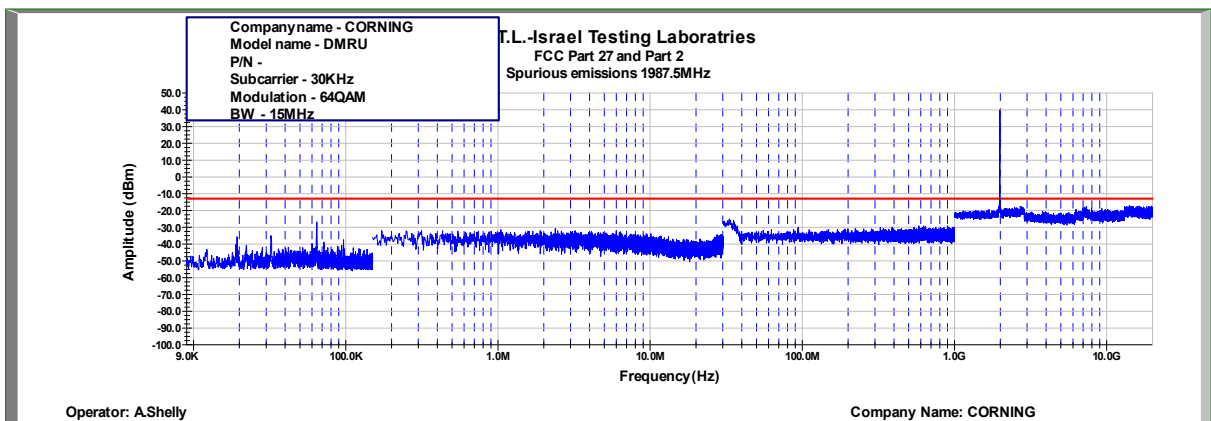


Figure 418: Spurious Emissions at Antenna Terminal 64QAM, 1987.5MHz, B.W. 15MHz, Sub Carrier 30kHz

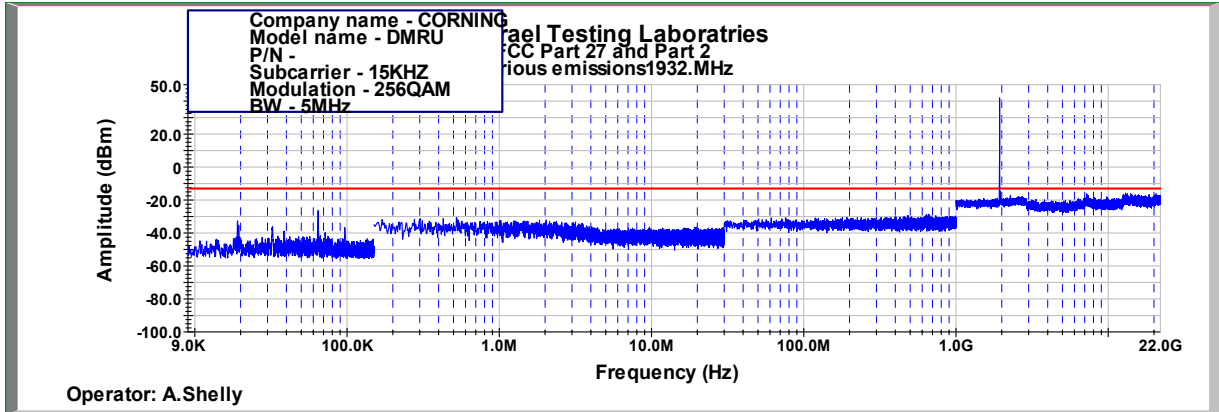


Figure 419: Spurious Emissions at Antenna Terminal 256QAM, 1932.5MHz, B.W. 5MHz, Sub Carrier 15kHz

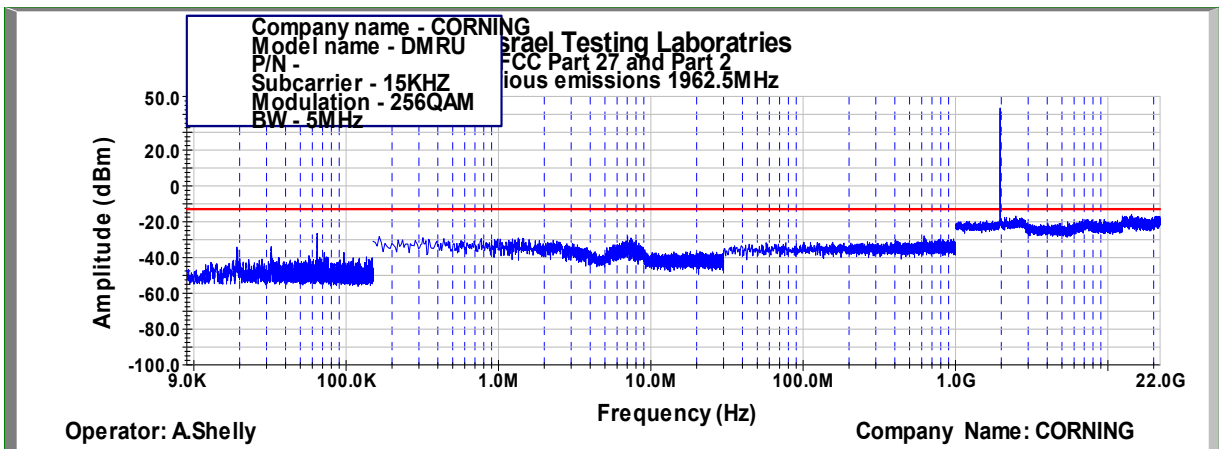


Figure 420: Spurious Emissions at Antenna Terminal 256QAM, 1962.5MHz, B.W. 5MHz, Sub Carrier 15kHz

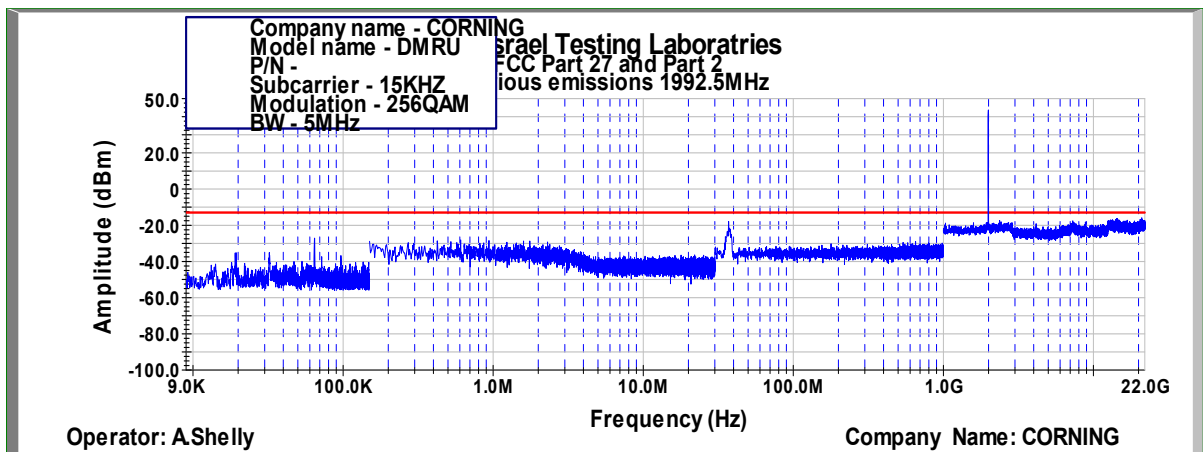


Figure 421: Spurious Emissions at Antenna Terminal 256QAM, 1992.5MHz, B.W. 5MHz, Sub Carrier 15kHz

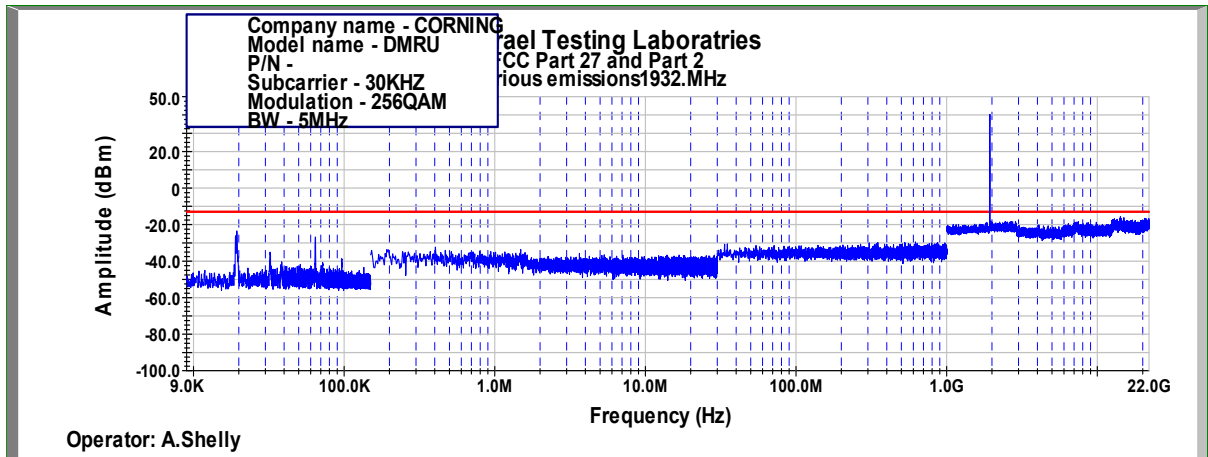


Figure 422: Spurious Emissions at Antenna Terminal 256QAM, 1932.5MHz,
B.W. 5MHz, Sub Carrier 30kHz

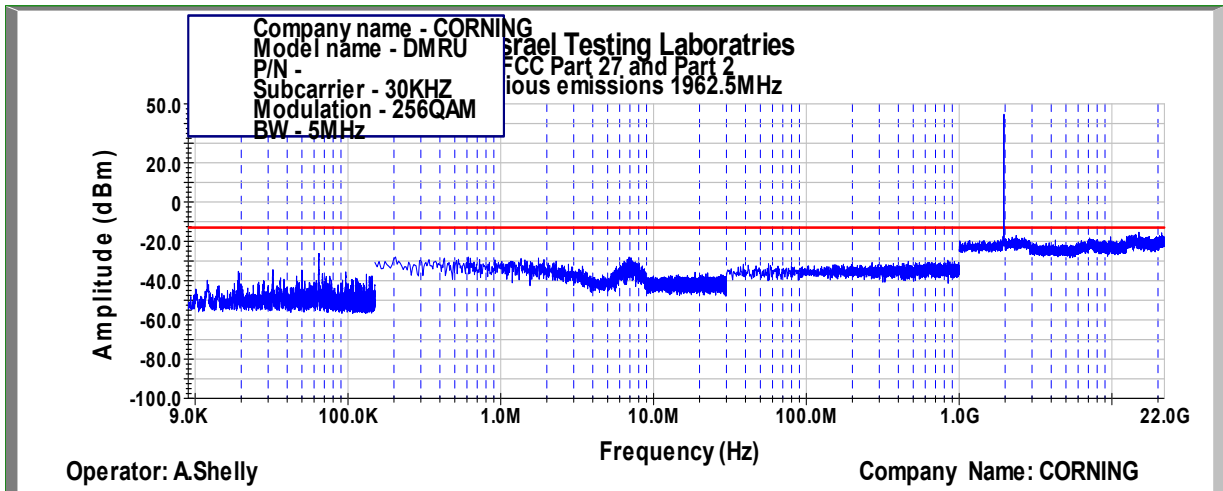


Figure 423: Spurious Emissions at Antenna Terminal 256QAM, 1962.5MHz,
B.W. 5MHz, Sub Carrier 30kHz

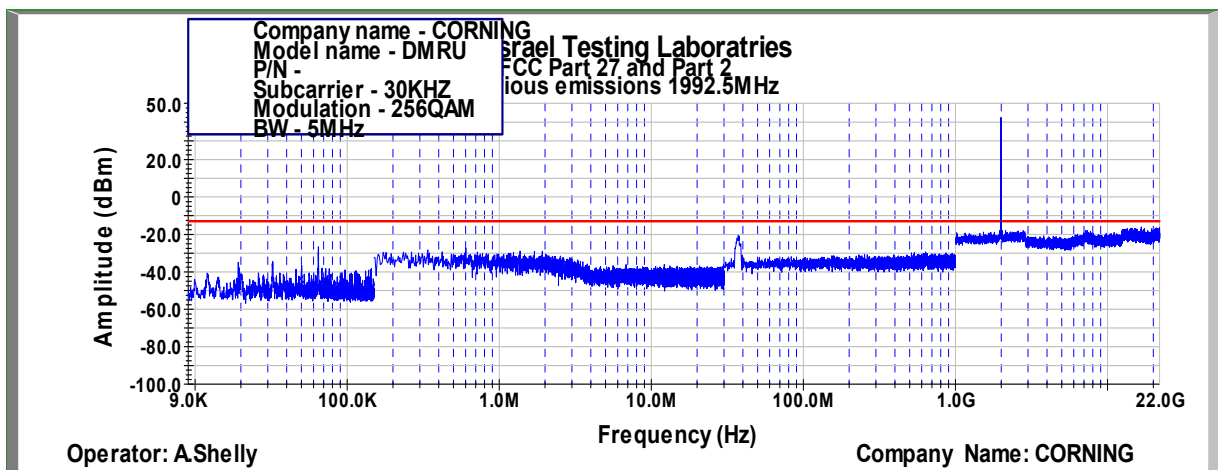


Figure 424: Spurious Emissions at Antenna Terminal 256QAM, 1992.5MHz,
B.W. 5MHz, Sub Carrier 30kHz

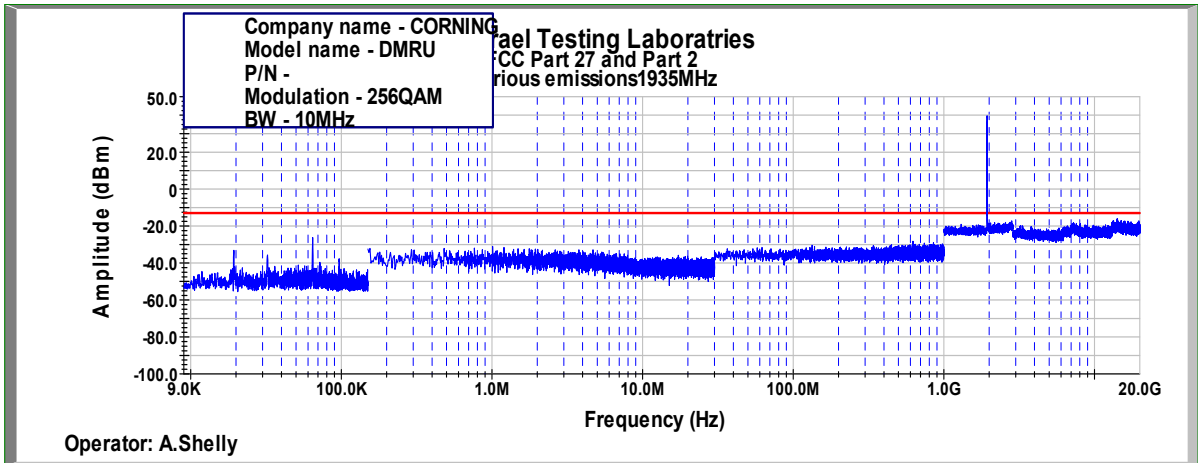


Figure 425: Spurious Emissions at Antenna Terminal 256QAM, 1935MHz, B.W. 10MHz, Sub Carrier 15kHz

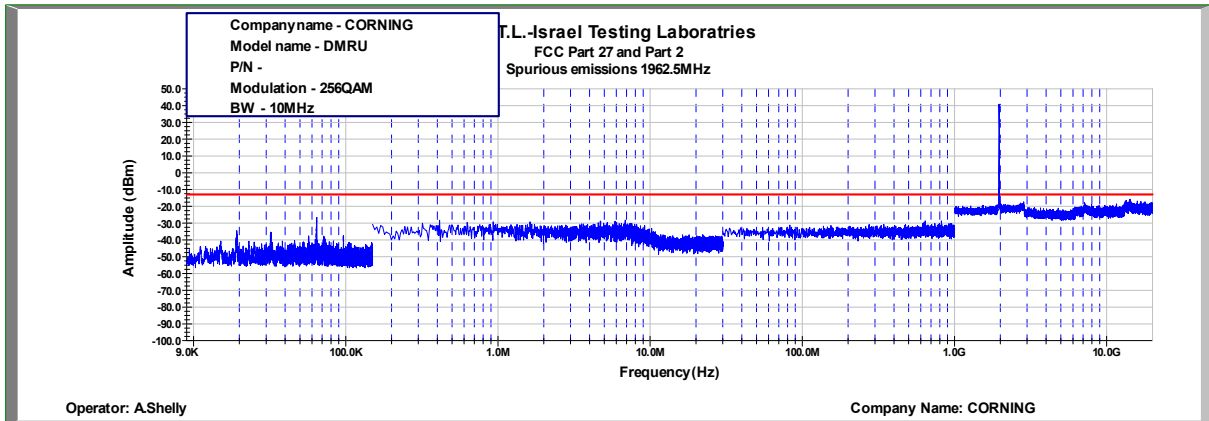


Figure 426: Spurious Emissions at Antenna Terminal 256QAM, 1962.5MHz, B.W. 10MHz, Sub Carrier 15kHz

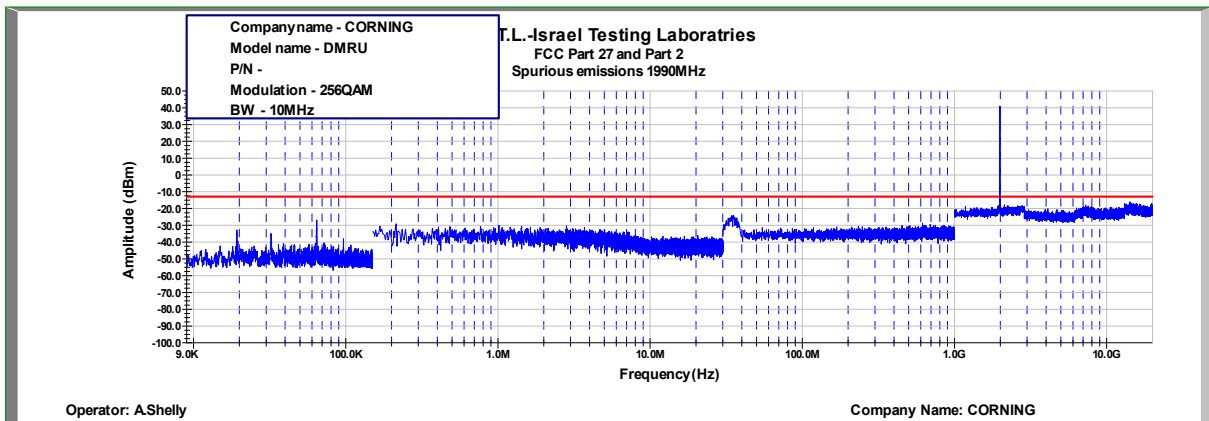


Figure 427: Spurious Emissions at Antenna Terminal 256QAM, 1990MHz, B.W. 10MHz, Sub Carrier 15kHz

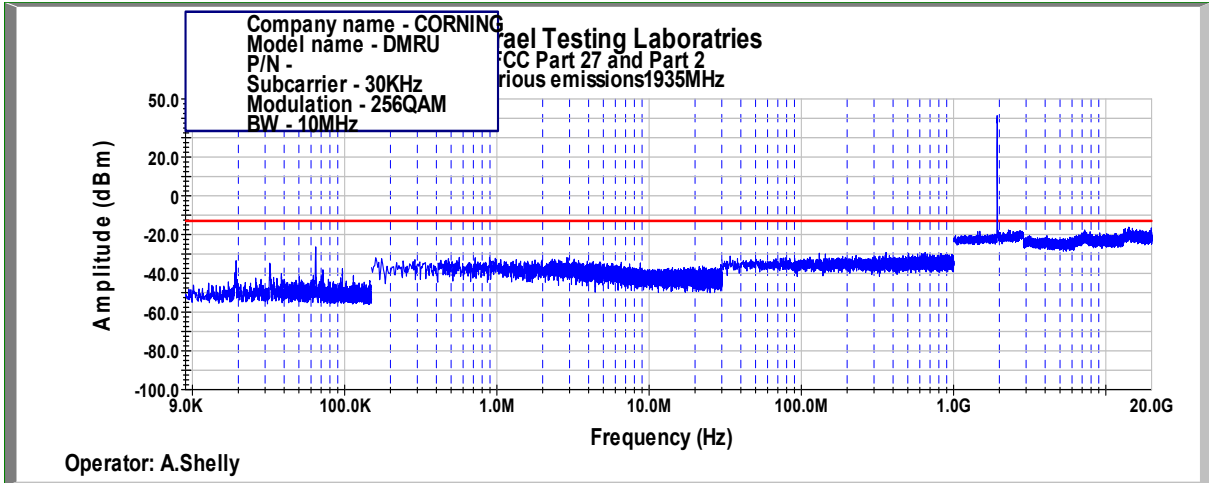


Figure 428: Spurious Emissions at Antenna Terminal 256QAM, 1935MHz, B.W. 10MHz, Sub Carrier 30kHz

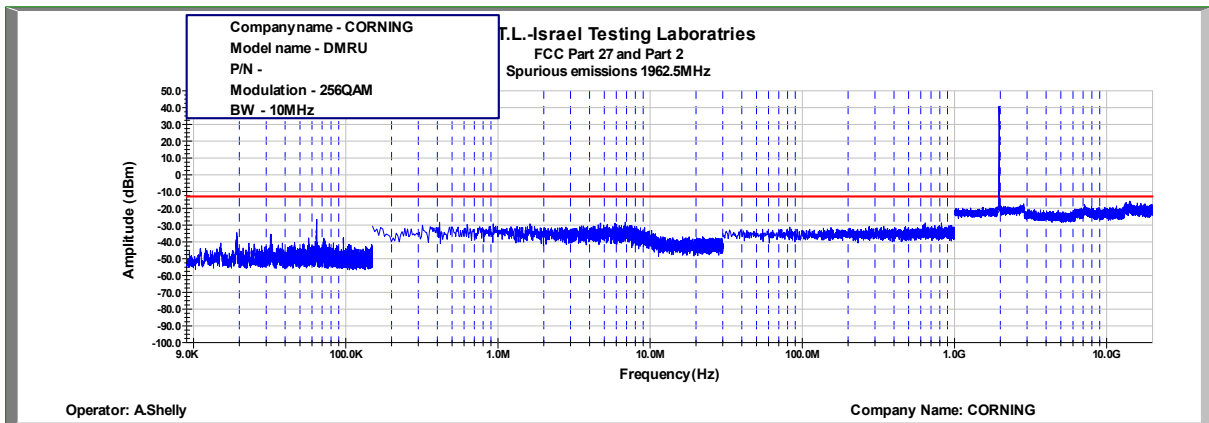


Figure 429: Spurious Emissions at Antenna Terminal 256QAM, 1962.5MHz, B.W. 10MHz, Sub Carrier 30kHz

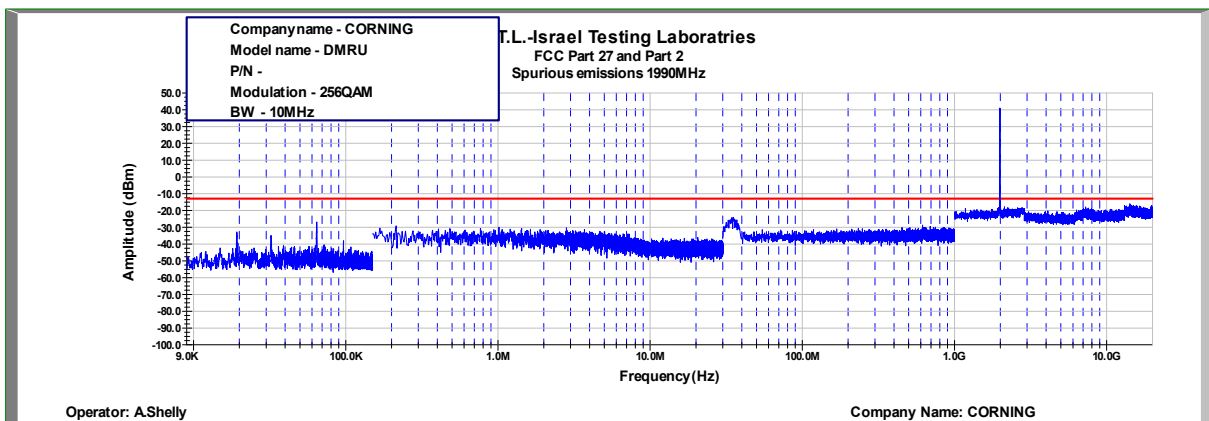


Figure 430: Spurious Emissions at Antenna Terminal 256QAM, 1990MHz, B.W. 10MHz, Sub Carrier 30kHz

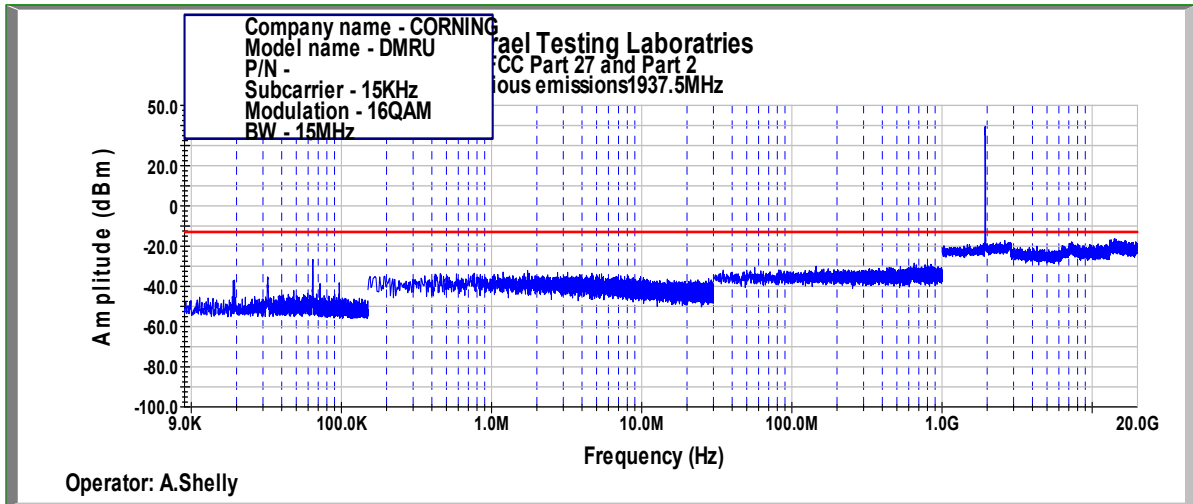


Figure 431: Spurious Emissions at Antenna Terminal 256QAM, 1937.5MHz, B.W. 15MHz, Sub Carrier 15kHz

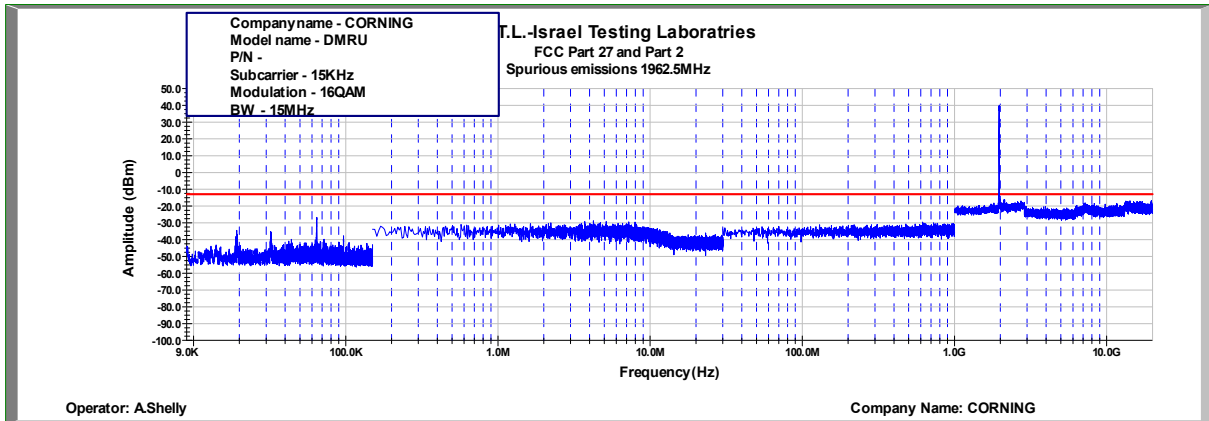


Figure 432: Spurious Emissions at Antenna Terminal 256QAM, 1962.5MHz, B.W. 15MHz, Sub Carrier 15kHz

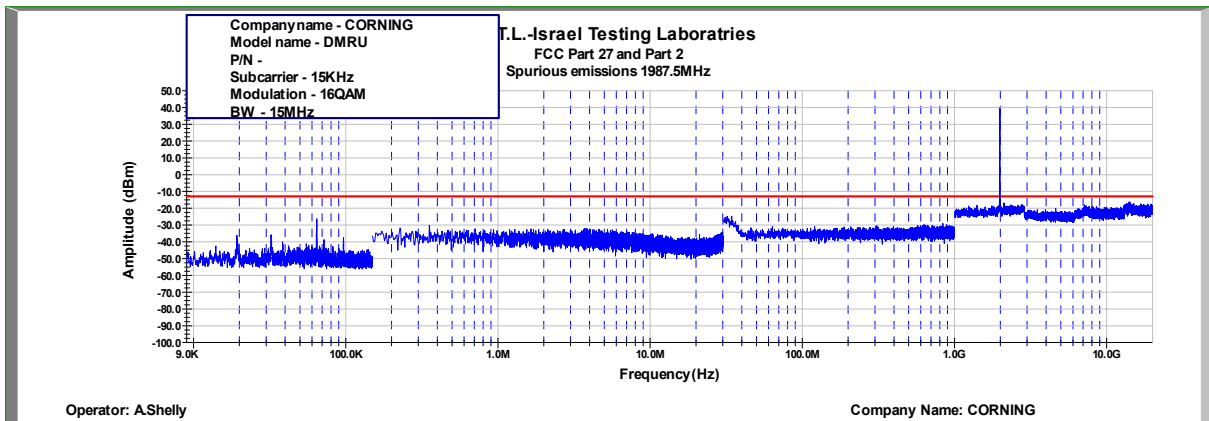


Figure 433: Spurious Emissions at Antenna Terminal 256QAM, 1987.5MHz, B.W. 15MHz, Sub Carrier 15kHz

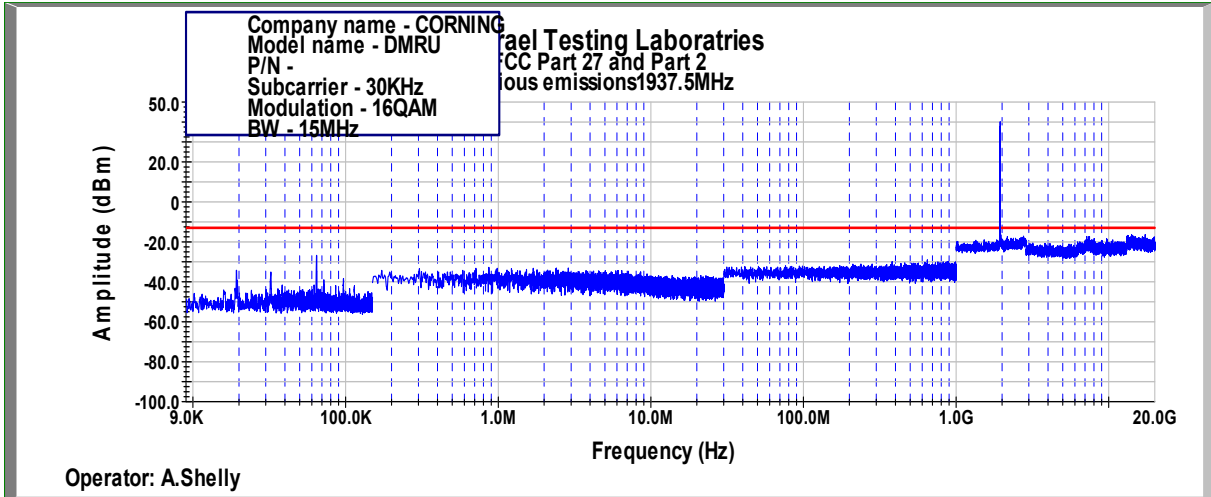


Figure 434: Spurious Emissions at Antenna Terminal 256QAM, 1937.5MHz, B.W. 15MHz, Sub Carrier 30kHz

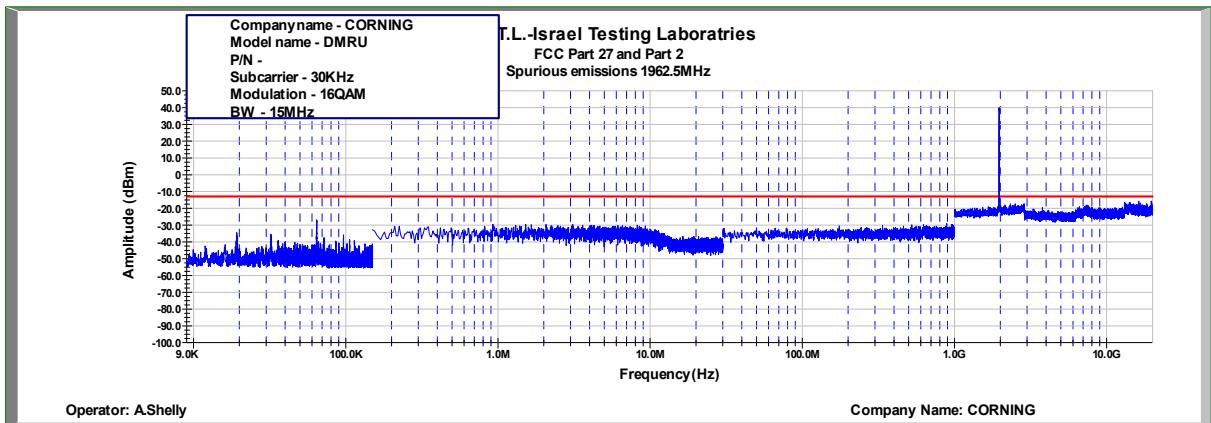


Figure 435: Spurious Emissions at Antenna Terminal 256QAM, 1962.5MHz, B.W. 15MHz, Sub Carrier 30kHz

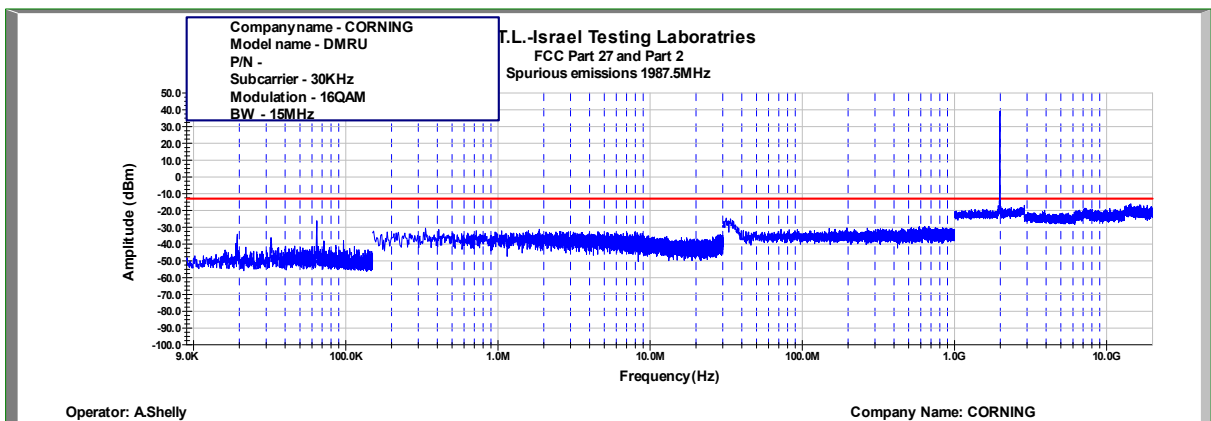


Figure 436: Spurious Emissions at Antenna Terminal 256QAM, 1987.5MHz, B.W. 15MHz, Sub Carrier 30kHz

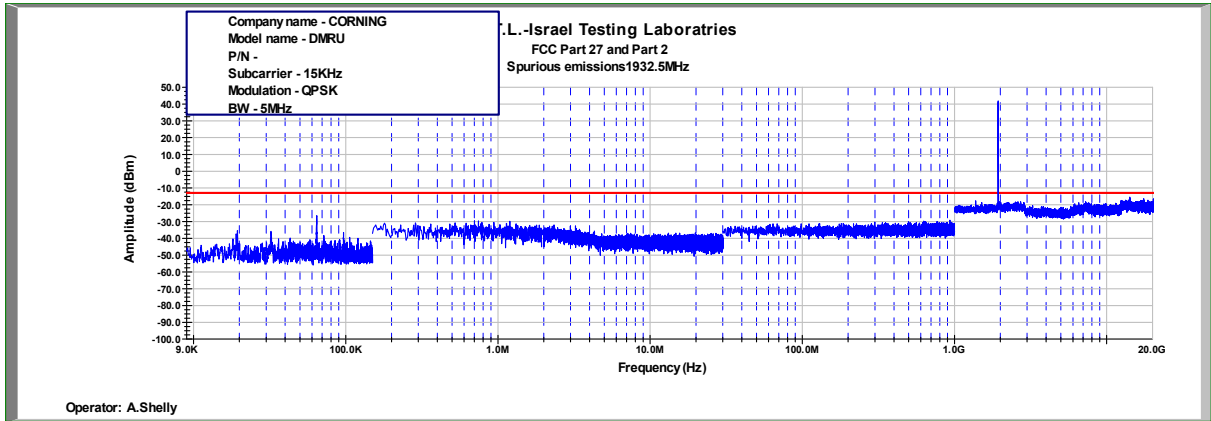


Figure 437: Spurious Emissions at Antenna Terminal QPSK, 1932.5MHz, B.W. 5MHz, Sub Carrier 15kHz

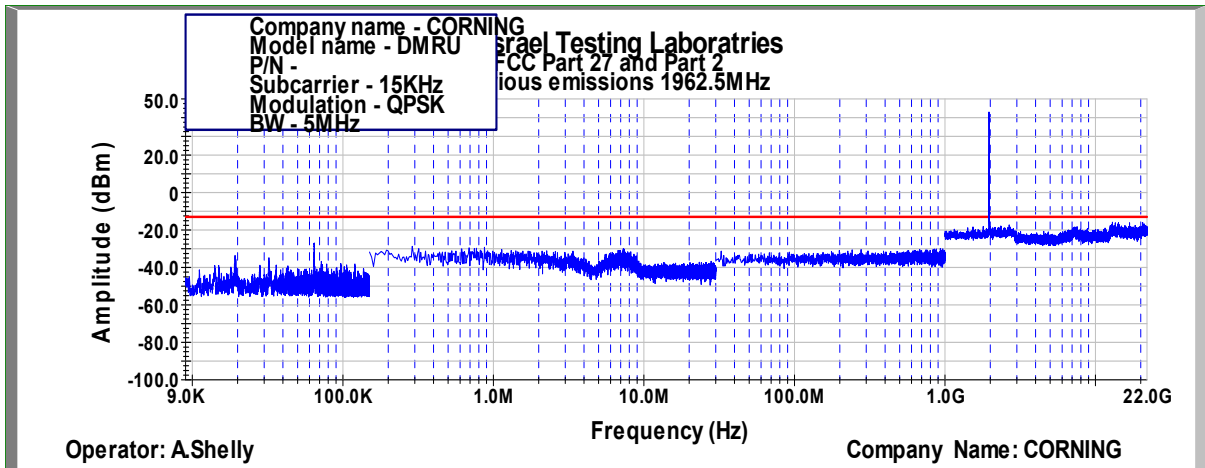


Figure 438: Spurious Emissions at Antenna Terminal QPSK, 1962.5MHz, B.W. 5MHz, Sub Carrier 15kHz

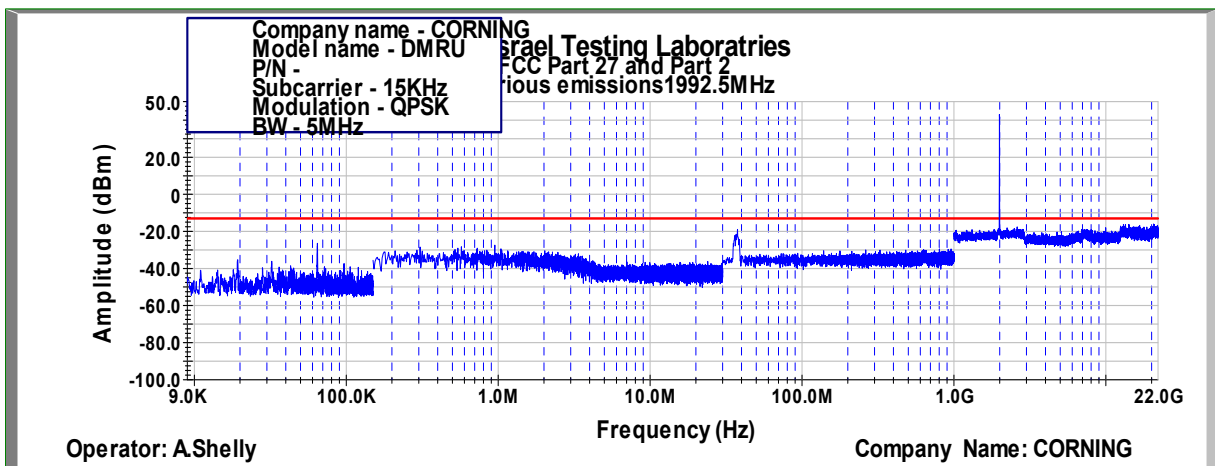


Figure 439: Spurious Emissions at Antenna Terminal QPSK, 1992.5MHz, B.W. 5MHz, Sub Carrier 15kHz

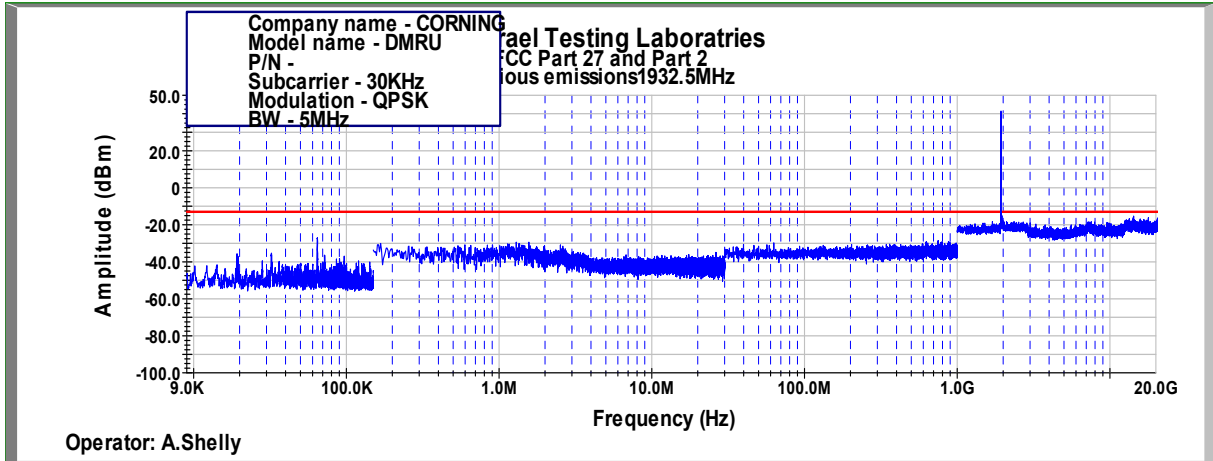


Figure 440: Spurious Emissions at Antenna Terminal QPSK, 1932.5MHz, B.W. 5MHz, Sub Carrier 30kHz

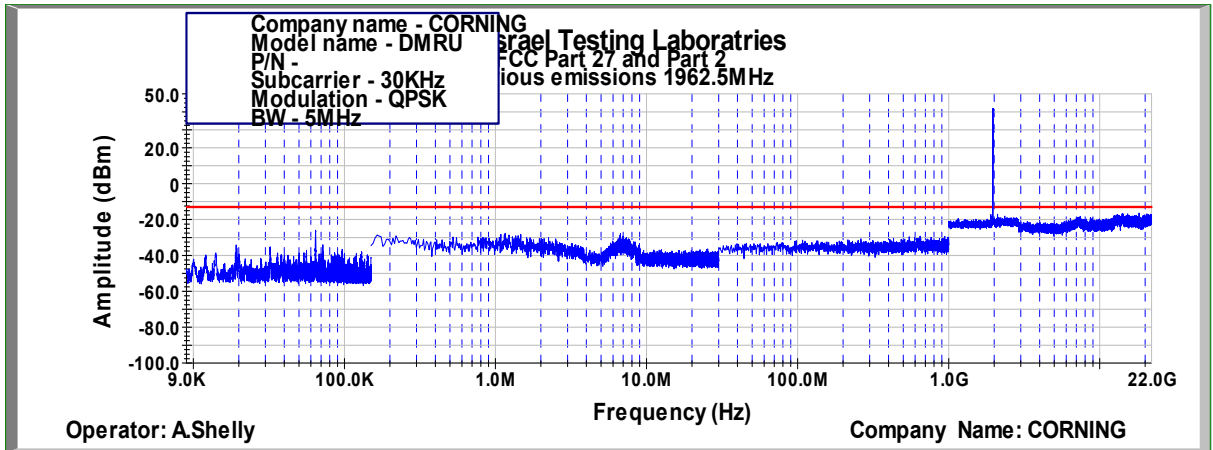


Figure 441: Spurious Emissions at Antenna Terminal QPSK, 1962.5MHz, B.W. 5MHz, Sub Carrier 30kHz

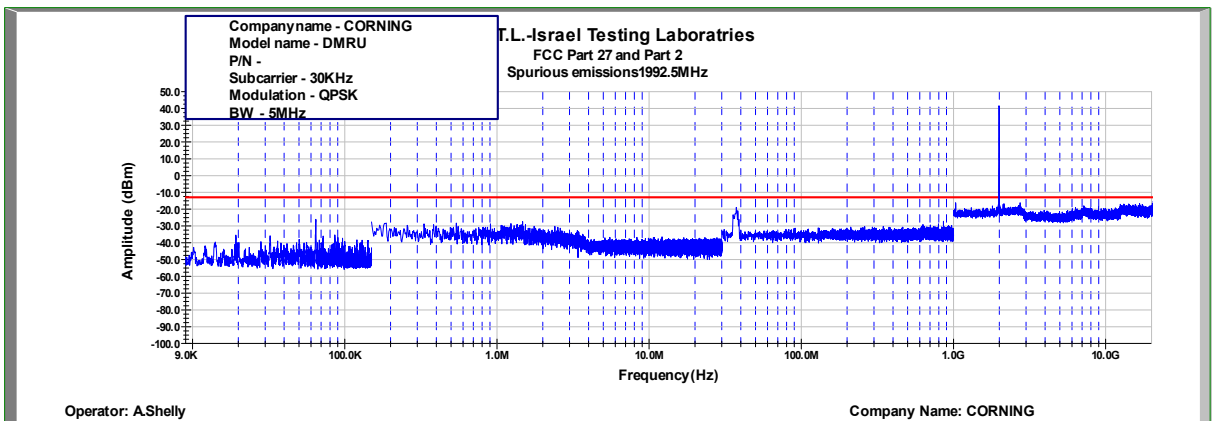


Figure 442: Spurious Emissions at Antenna Terminal QPSK, 1992.5MHz, B.W. 5MHz, Sub Carrier 30kHz

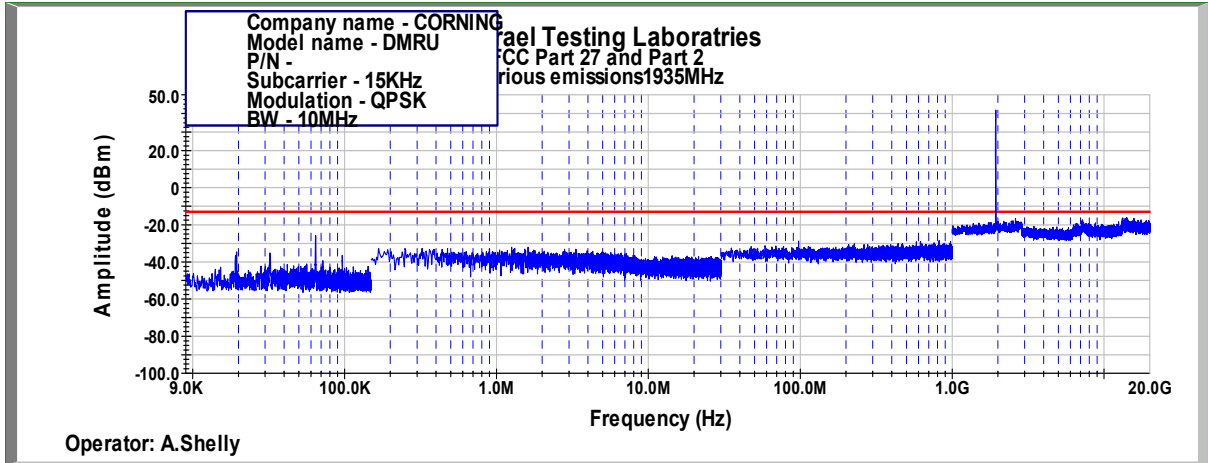


Figure 443: Spurious Emissions at Antenna Terminal QPSK, 1935MHz, B.W. 10MHz, Sub Carrier 15kHz

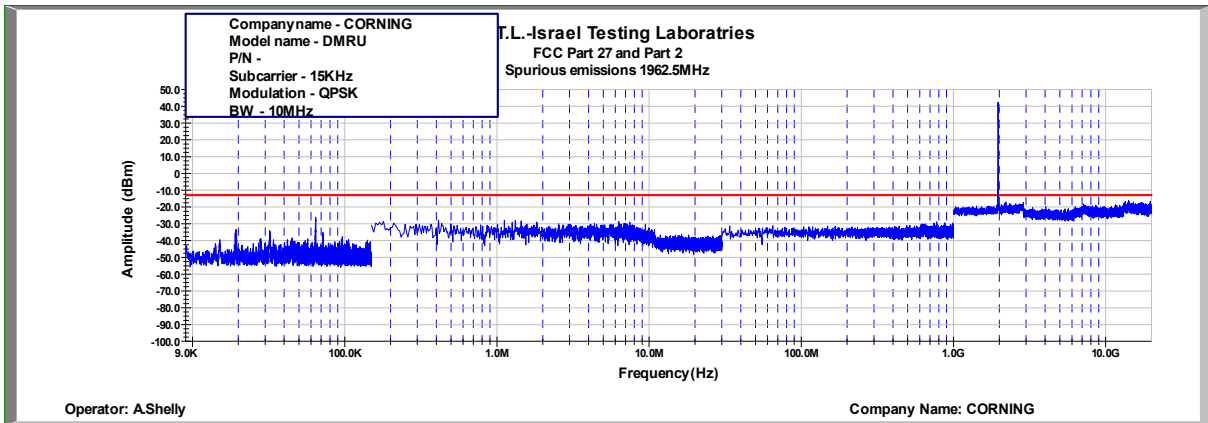


Figure 444: Spurious Emissions at Antenna Terminal QPSK, 1962.5MHz, B.W. 10MHz, Sub Carrier 15kHz

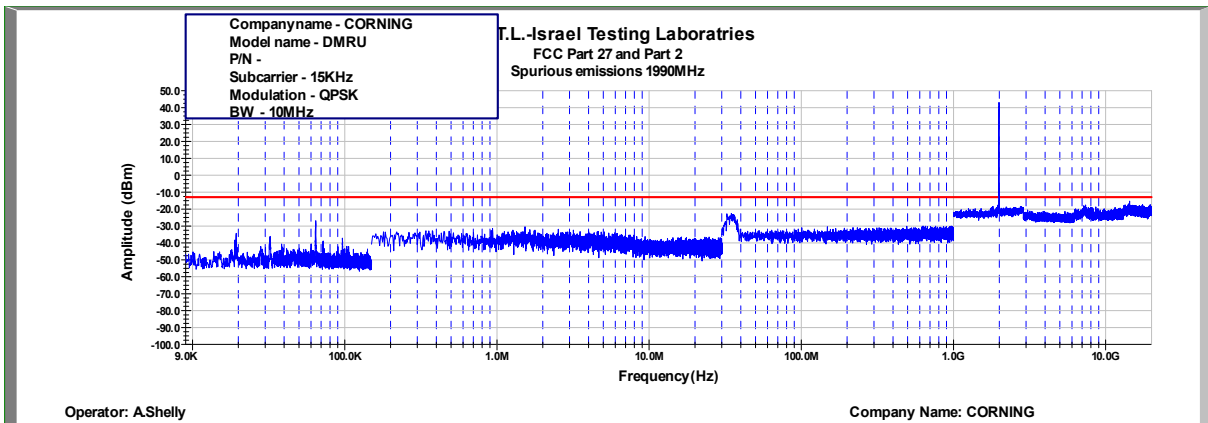


Figure 445: Spurious Emissions at Antenna Terminal QPSK, 1990MHz, B.W. 10MHz, Sub Carrier 15kHz

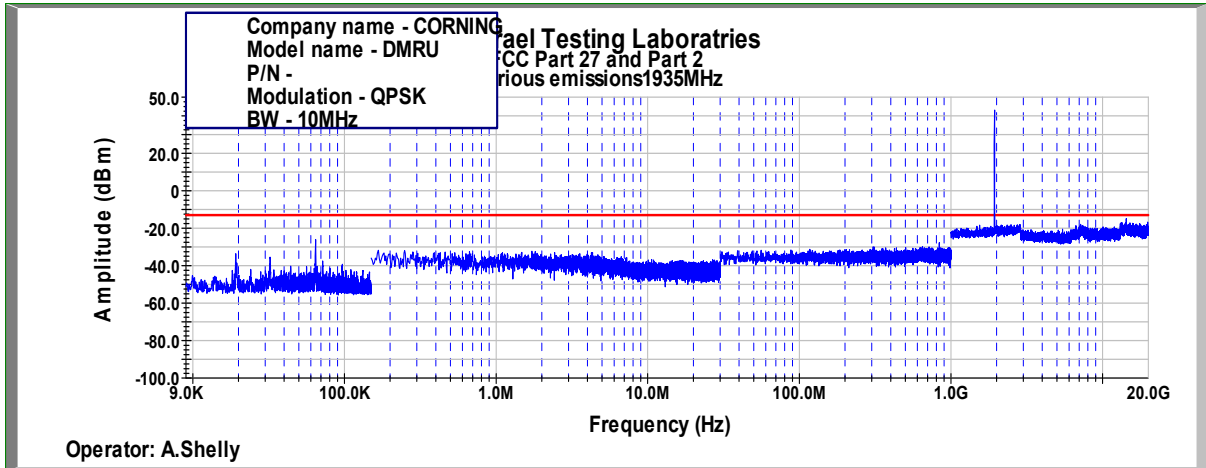


Figure 446: Spurious Emissions at Antenna Terminal QPSK, 1935MHz,
B.W. 10MHz, Sub Carrier 30kHz

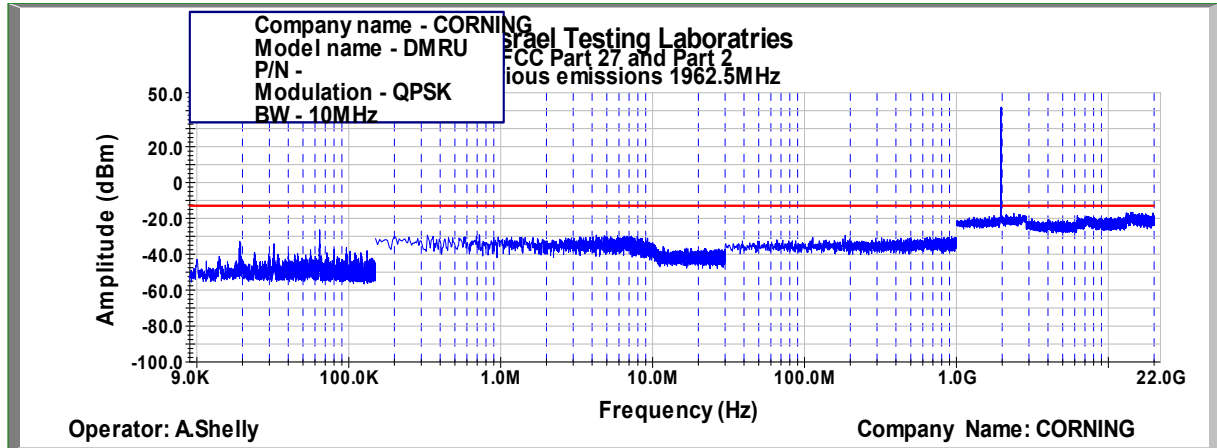


Figure 447: Spurious Emissions at Antenna Terminal QPSK, 1962.5MHz,
B.W. 10MHz, Sub Carrier 30kHz

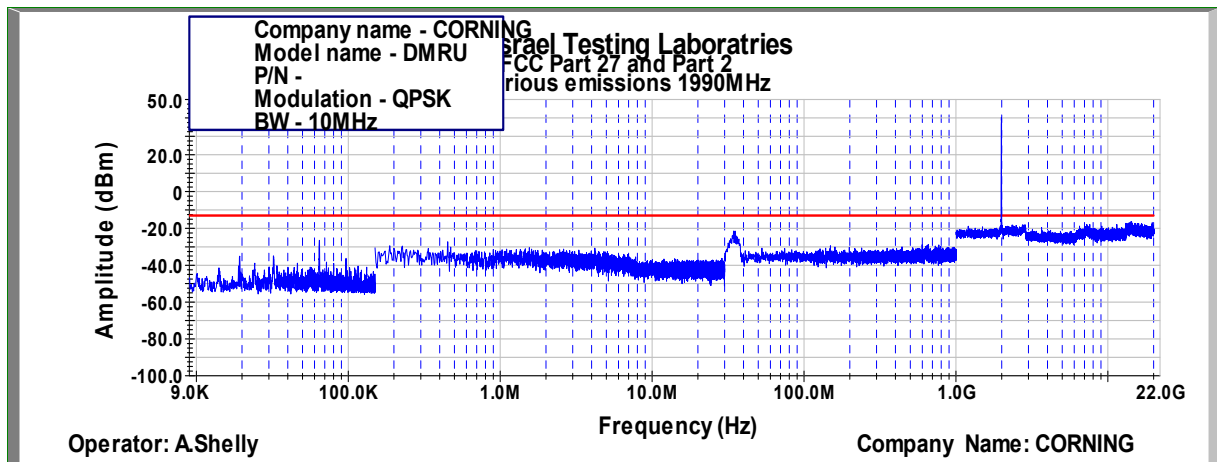


Figure 448: Spurious Emissions at Antenna Terminal QPSK, 1990MHz,
B.W. 10MHz, Sub Carrier 30kHz