Center Frequency Offset Performance

TX Signal Spectrum

f1

Receiver Bandwidth

f2

Center Frequency offset = f2-f1
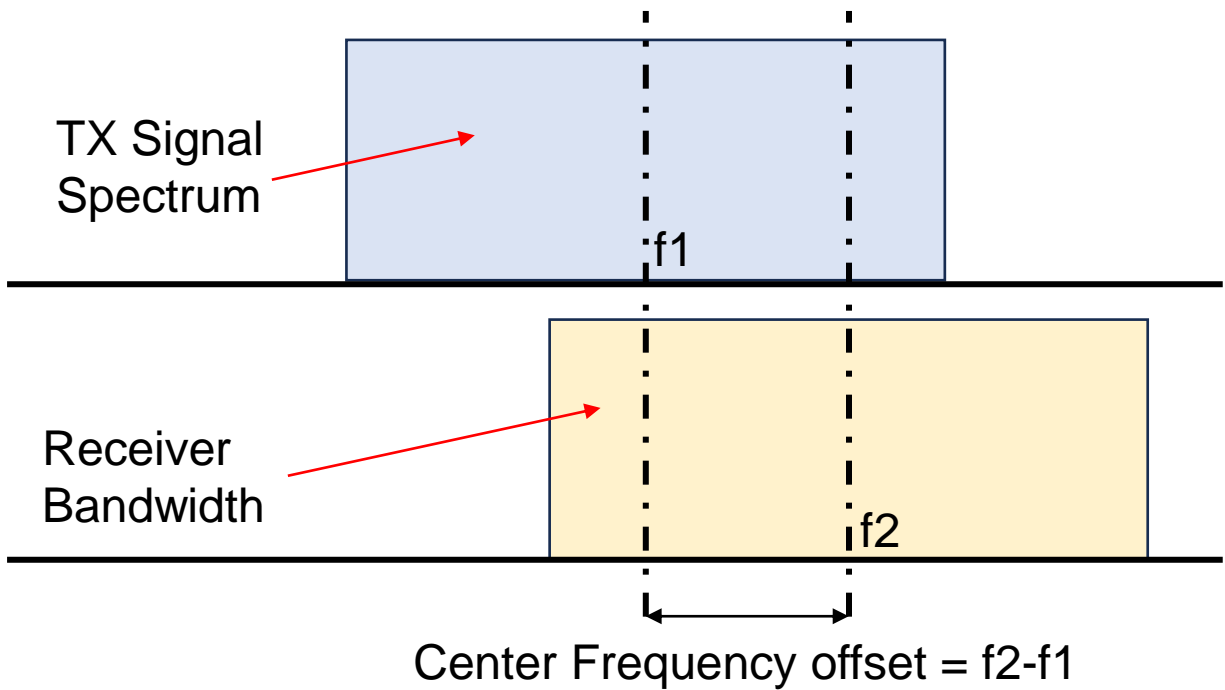
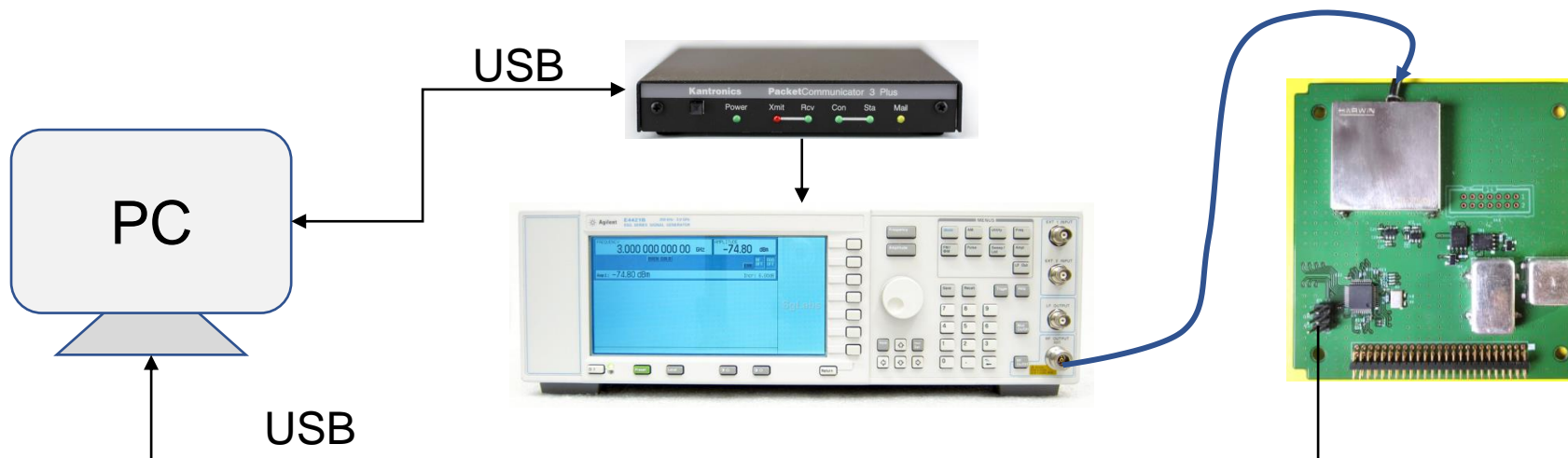| Setting	Manageable offset of ADDNICS Tranceiver	Manageable offset of NEW Tranceiver
GMSK , FD = 1.2KHz (ICOM Radio Setting)	$\pm 4 kHz$	$\pm 8\ kHz$
GFSK , FD = 5.0kHz	–	$\pm 9\ kHz$

Previous value = $\pm 0.8\ kHz$

Previous value = $\pm 2\ kHz$

Cable Sensitivity Test

USB

USB

	ADDNICS Transceiver	New UHF Transceiver Without AFC	New UHF Transceiver With AFC
GMSK , FD = 1.2KHz (ICOM Radio Setting)	-107 dBm	-108 dBm	-118 dBm

Output spectrum of the signal generator is same as ICOM Radio output spectrum with this setting

AFC = Automatic Frequency Correction

New TRX Settings

If required, Following parameters of the tranceiver can be changed using uplink commands when satellite is in the orbit.

Parameter	Example Values	Unit	Default Setting
Downlink Frequency	400MHz – 500MHz	MHz	437.375 MHz
Uplink Frequency	400MHz – 500MHz	MHz	435.313 MHz
Telemetry Transmit power	13, 14, 15,………., 29	dBm	28 dBm
CW transmit power	10, 11, 12,…….....,25	dBm	20 dBm
Transmission frequency Deviation	0.8, 0.9, 1.0,………..,25.5	kHz	1.2 kHz
Receiving frequency Deviation	0.8, 0.9, 1.0,………..,25.5	kHz	1.2 kHz
Receiving channel bandwidth	2.6, 3.1, 3.9,…..........,31.3	kHz	10 kHz
Uplink/Downlink Data Rate	2.4, 4.8, 9.6, 19.2, 38.4	kbps	4.8 kbps
AFC (Automatic frequency correction)	Enable, disable	-	Enable

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